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ABSTRACT

This study reviews evidence that overall within-country inequality, although showing no trends from 1960-80, increased after 1980-85, focusing on developing and transitional countries. It explores trends in rural-urban, intrarural, and intraurban inequality of income, poverty risk, health, and education, and the offsetting trends in inequality hypothesis (OTI). OTI claims that underlying the overall inequality trend has been a tendency for rising intrasectoral inequality to be offset by falling rural-urban inequality. Analysis of the limited available data indicate that there is no such pattern. Different regions and countries experienced different, though substantial, trends and timings of change in different types of rural-urban inequality. For example, rural-urban gaps in mean consumption and poverty incidence have narrowed in Africa and widened in Asia, but they show no global trend, usually moving in the same direction as overall inequality. Such change can be explained in part by two demographic forces affecting almost all developing countries since the 1950s, but at different times and speeds (demographic transition and urbanization). The finding of rising rural-urban odds ratios in education (and to some extent in health) indicators appears to indicate rising urban bias. (Contains 64 references.) (SM)

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Robert Eastwood and
Michael Lipton

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Robert Eastwood and Michael Lipton

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ABSTRACT

For developing and transitional countries we explore trends in rural-urban, intrarural and intraurban inequality of income, poverty risk, health and education. In particular, we ask whether behind generally rising inequality post-1980 lie offsetting inter and intrasectoral trends, with narrowing rural-urban gaps—perhaps due to adjustment—being more than offset by rising intrasectoral inequality. Our main finding is that there is no such pattern. Rural-urban gaps in mean consumption and poverty incidence have narrowed in Africa, widened in Asia, but show no global trend, usually moving in the same direction as overall inequality. Anyway divergence in, say, per person consumption need not mean that urban bias has increased: exogenous factors might have raised the relative returns to urban activities. In contrast, our finding of rising urban/rural 'odds ratios' in education (and to some extent health) indicators *does* seem to indicate rising urban bias.

I INTRODUCTION

1.1 The OTI hypothesis, adjustment, and urban bias

This study[1] reviews the evidence that overall within-country inequality, although showing no trends around 1960-80, has increased after 1980-5. This paper, which is confined to developing and transitional countries, explores the trends in rural-urban, intrarural and intraurban inequality of income, poverty risk, health and education, and the *offsetting trends in inequality* hypothesis (OTI). OTI claims that underlying the overall inequality trend has been a tendency for rising intrasectoral inequality to be offset by falling rural-urban inequality.

After 1980, developing countries experienced much more 'adjustment', in particular price liberalization, than previously. Many argue that this, apart from enhancing efficiency and growth, must have reduced rural-urban inequality.[2] Price liberalization reduces price distortions against tradables that, in developing countries, are usually, often substantially, harmful to agriculture (Krueger *et al.* 1995). Hence correcting these distortions should narrow the substantial (and economically artificial and dysfunctional) gaps between the urban sector and the poorer rural sector. Trends in urban-rural income inequality, induced by such corrections after 1980, should therefore have tended to reduce overall national inequality (and poverty).

Opposing this are factors, some associated with liberalization or adjustment, which may have tended to raise rural-urban inequality:

- Urban people, being better educated, are better placed to exploit new economic opportunities in the wake of price liberalization.
- Demographic trends—faster urban fertility transition, plus the selective townward movement of young people, educated people, and in Asia and

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[1] A shorter version of this paper appears in Cornia (forthcoming).

[2] This paper does not seek to explain inter-country 'variance in rates of change of rural-urban inequality' by 'variance in their degrees of liberalization'. Apart from problems of data and econometrics, that approach falls foul of the fact that removal of market barriers in one country provides strong pressures towards similar price outcomes in competitor countries, reducing the variance among national-level measures of the rate of liberalization.

Africa males (Eastwood and Lipton 1999)—may have improved the relative earning power of urban people.

- Urban and formal activity, being most regulated to begin with, had most to gain from deregulation.
- The successes of poverty reduction in 1970-87 left behind a 'hard core' of low-income, immobile, often regionally and ethnically specific rural groups, which, as in China, have proved weak in reaping rural 'spread effects' from national growth, and/or in passing such gains to their rural poor.
- There may be persistent and stable *urban bias*: allocative outcomes, and political dispositions, in developing countries such that rural shares in many sorts of endowment (investment, health, education, public spending) fall well below both efficiency and equity optima (Lipton 1977). Such political dispositions—being normally unaffected by adjustment in prices or foreign-trade regimes—would offset its pro-rural effects by pro-urban changes in other policies, such as location of public investments and schools.
- Urban-rural inequality might be pushed up by the continuing global downtrend of farm prices vis-à-vis non-farm prices.

The limited data available, reviewed in this paper, refute OTI for two reasons. First, they show no *overall* tendency for within-country rural-urban inequality to increase or decrease since the 1980s. Second, while modest national and regional tendencies exist, they do not, on the whole, offset trends in overall inequality. Rural-urban ratios of both mean consumption and poverty risk have commonly risen alongside total inequality (often sharply, with rapid but unbalanced change: growth in China, decline in Russia), or fallen alongside total inequality, either as in Zambia when economic decline rendered artificial protection for urban incomes unsustainable, or as in Indonesia alongside labour-intensive growth. And some countries, such as India, have seen urban/rural ratios and total inequality both almost trendless (often with much fluctuation).[3]

1.2 Outline

Section II asks how the rural-urban distribution of mean income or consumption has changed, as between recent household surveys in developing and transitional countries. We find no global trends in either inter- or intrasectoral inequality, but

[3] Moreover, trends within a country in the ratio of urban to rural 'welfare' can differ according to the indicator used—e.g. primary enrolments, literacy rates, longevity (Eastwood and Lipton 2000).

there is some evidence of regional uniformity. OTI has some success in Latin America if one considers only countries for which there is evidence extending into the 1990s. For instance, it fits the largest country, Brazil, over 1980-95, although non-uniform trends within this period mean that a link from adjustment to OTI cannot be asserted. There is no support for OTI in Asia: while intrasectoral inequality is tending to rise in the 1980s and 1990s, there is no evidence of an offsetting fall in rural-urban inequality. Indeed, in contrast to Latin America, the rural-urban gap is *rising* in the four Asian countries for which we have evidence for the 1990s (Table II.3), and in three of them, including China, the rise is rapid. For Africa and the transitionals, paucity of data means that no clear conclusions can be drawn.

Section III turns to trends in the ratio of rural to urban poverty. We confine ourselves, as in Section II, to countries with household survey data for more than one year. In Asia, we find no change in India, sharp rural-urban poverty divergence in China since 1985, and some divergence in Bangladesh and most other countries with comparable survey data; only Indonesia and Sri Lanka show poverty convergence. Nine of the ten transitional economies with available data show 'farmer-worker' poverty divergence, and there is rural-urban poverty divergence in four of the five countries with reliable household surveys in Latin America.[4] Only in Africa did urban and rural poverty show some mild convergence during adjustment, but due to falling intrarural inequality rather than to convergence between mean rural and urban income.

Sections IV-V explore rural-urban inequality trends in 'human development' indicators of health and education. In the absence of urban bias there would be a strong expectation of convergence. Rural levels of provision and attainment in health and education were, around 1970-5, usually far below urban levels (Lipton 1977). Hence both cost-effectiveness and returns should have been higher, subsequently, to activities for rural than for urban improvement. Yet since the 1970s we find divergence—on balance, faster health improvements, and substantially faster falls in illiteracy, in urban than in rural areas. Urban-rural divergence in, say, expenditure per capita need not indicate intensified urban bias, but might be caused by exogenous rises in the returns to urban sector activities; the health and education evidence, in contrast, *does* seem to point to intensified urban bias in public policy in these areas, since plausible alternative hypotheses here do not present themselves.

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[4] For data of unknown quality, the balance in Latin America is reversed. However

Section VI asks how demographic change impinges on rural-urban inequality trends. Already in Sections II-V we had to separate 'genuine' changes in rural-urban inequality of mean income, poverty risk, life expectancy, and illiteracy, from effects of demographic change; for example, if the urban population ages faster than the rural, its overall death-rate moves differently. Section VI shows that differential rural-urban demographic changes, together with urbanization, may help to account for the absence of rural-urban convergence in the developing world.

1.3 Trends in average rural and urban outcomes: why worry?

First, rural-urban differences in mean consumption or poverty are not merely reflections of differences in other characteristics such as literacy. Even allowing for differences in characteristics such as educational level, rural people still tend to be poorer (de Haan and Lipton 2000). Moreover, rural residence may itself reduce educational levels, e.g. because school provision is less or worse.

Second, the absence of any general downward trend in urban/rural ratios of welfare indicators in developing and transitional countries is of interest, because it is contrary to *long-run* expectations. These ratios are generally far above unity, yet are close to or below unity in OECD. So one would expect increasing information, education, capital and labour mobility, and political representation all to induce falls in arbitrary and persistent rural disadvantage. However, there is no reason why this should be stimulated by the set of adjustment processes that have underpinned income-distribution change since the late 1970s. These processes did reduce some antirural price distortions, but may have increased other antirural distortions, especially given a roughly 'constant' urban policy bias (see above). Moreover, market-friendly adjustment has usually been accompanied by all-round cuts in public expenditure during initial stabilization, and sometimes by a further push towards smaller government later; but, to enable rural-urban disparities to fall, new market opportunities may need to be accompanied by measures that help rural people to exploit them, not by all-round cuts.

Third, our finding of non-convergent trends in rural and urban welfare does not merely reflect productivity trends. Indeed it is, at first sight, contrary to the

tendency in 1970-85 towards a fall in nonfarm/farm nominal[5] ratios of labour productivity. Such ratios were around 1.5 in now-developed countries during early modern growth (usually in the nineteenth century), but about 3 in the early 1970s in Asia and Latin America, and in Africa around 6. The possible inefficiency of ratios so far above unity—since they appear to exist also at the margin, and to be mirrored by nonfarm-to-farm ratios of average and marginal GDP per unit of capital well above unity—led to the urban bias hypothesis (Lipton 1977). However, nonfarm-to-farm ratios of average GDP per worker in 1970-85 fell, often dramatically, in most developing countries (Bourguignon 1998), despite the falling world trend (around 0.4-0.5 per cent per year) of farm relative to non-farm prices. The absence of correspondingly dramatic national—or *any* 'third world-wide'—convergence of rural and urban welfare indicators is therefore surprising, especially in view of the rise in the proportion of rural income derived from non-farm activity (which still almost always generates substantially higher income per worker than farming, even if less so than in 1985 than in 1970).

Fourth, trends in rural-urban disparities matter, even if rapid growth is, for the time being, ensuring that everybody's economic welfare is increasing. First, an uptrend is often *itself* inefficient. For example, after rural-urban inequality in primary-school provision per person has risen past a certain point, an extra rural place is at once cheaper, more educationally productive, and more contributory to GNP than an extra urban place. Second, an uptrend is often a sign of inefficiency. If the unskilled urban wage keeps rising relative to the rural, why is this trend not reversed as labour moves from village to town, and capital (and employers) from town to village? Third, high or rising rural-urban inequality may damage subsequent economic growth The balance of evidence strongly supports a negative impact from *overall* inequality (Bénabou 1996, Kanbur and Lustig 1999), but this is controversial, perhaps because different types of inequality have opposite effects on growth. Inequality of earnings that rewards effort, or provision of growth-constraining skills in income-elastic supply, is likely to be, at least up to a point, pro-growth. Inequality of ascribed income, or income due to ascribed wealth—income or wealth accruing because of, say, inheritance, priestly status, or positioning to seize monopoly rent or to undertake

[5] Thus the GDP shares below are measured at current prices. This is appropriate in seeking 'the productivity counterpart of welfare change' since it is nominal, not constant-price, trends in a sector's GDP share that correspond to time-trends in incomes received by factors in that sector.

political lobbying—rewards its beneficiaries, not as achievers, but with a tax on the incentives payable to achievers; hence it is anti-growth. Rural-urban or other spatial inequality is likely to be ascribed rather than attained. Rural-urban (and farm-nonfarm) inequalities are generally far less in OECD than in developing or transitional countries; one would expect the reduction of such inequalities to be a concomitant of development, and they may well also accelerate it.

II RURAL-URBAN AND INTRASECTORAL CONTRIBUTIONS TO CHANGES IN THE OVERALL INEQUALITY OF CONSUMPTION OR INCOME

2.1 Overview

Data limitations have forced us to adopt a piecemeal approach. For many countries, especially in Africa, there are few useful data. For many others, we have Gini coefficients, national, rural and urban, at more than one date, but no information on sectoral mean income (or consumption, per household, per equivalent adult or per capita—this qualifier should be understood in much of what follows). Data on the share of the population in urban areas are usually available. Our hypotheses are that (a) in the 1980s and 1990s urban-rural mean income or consumption inequality has fallen (partly in response to adjustment policies) and intrasector inequality has risen (OTI), and (b) this represents a change from the 1960s and 1970s, in which these inequalities generally changed little.

Data limitations mean that our conclusions on the OTI hypothesis must be tentative. Nevertheless, the two regions for which our data are best—Latin America and Asia—offer an intriguing contrast. OTI has some success in Latin America if one considers only countries for which there is evidence extending into the 1990s. It fits the largest country, Brazil, over 1980-95, thanks to a very sharp narrowing of rural-urban inequality during 1990-5; it also fits Honduras over 1989-93. In Chile, the only other country for which we have data on each inequality component extending into the 1990s, we also find the rural-urban gap narrowing and rural inequality rising, but here urban inequality falls. Conversely, OTI does badly in Asia: while intrasectoral inequality is tending to rise in the 1980s and 1990s, there is no evidence of an offsetting fall in rural-urban

inequality. Indeed, in contrast to Latin America, the rural-urban gap is *rising* in the four Asian countries for which we have evidence for the 1990s (Table II.3), and in three of them, including China, the rise is rapid.

How can we judge the OTI hypothesis in a particular case? We ideally want trend data from 1960 to the present on urban-rural relative mean income together with urban and rural inequality indices. To go beyond qualitative statements so as to identify the quantitative impact of inter- and intrasectoral inequality change on overall inequality requires more data and raises conceptual difficulties set out below. To anticipate, even if inequality can be decomposed into inter and intrasectoral components (not the case with the most commonly available index, the Gini), its change over time has a component due to changes in the sectoral proportions of population, so that population share data are needed as well. Even if the minimum data needed to judge the OTI hypothesis are not available, trends in relative sectoral mean income or sectoral inequality trends are helpful and are reported.

The decompositions to be discussed are all atheoretical, so causal interpretation is perilous. For instance, to say in respect of the dynamic decomposition of the change in the Theil-L that X per cent of the change is *caused* by a change in urban-rural inequality, Y per cent by a change in intrasectoral inequality and (100-X-Y) per cent by demographic change would be accurate only if these changes were themselves exogenous and independent. Independence is a strong assumption. Not only does it neglect feedback from (for instance) urban-rural inequality to rural-urban migration, but it requires of rural-urban migration that the migrant group (a) leave rural sector inequality unaffected on departure, (b) leave urban sector inequality unaffected on arrival, (c) leave relative urban mean income unaffected. We know in practice that the education and earning-power of the typical rural-to-urban migrant is above that of the typical villager but below that of the typical townperson, so that typical migration tends to lower mean urban *and* rural income, with ambivalent effects both on their ratio and on sectoral inequalities. So (a)-(c) above might conceivably not be too inaccurate in some cases. Nevertheless, we conclude that a large demographic component in an inequality disaggregation is a reason for extreme caution in interpretation.

2.2 Rural-urban inequality decompositions: analytics

Can we decompose inequality changes in developing and transitional countries into components arising from changes in intersectoral (urban-rural) inequality and intrasectoral (urban and rural) inequality? The commonest measures of

inequality are the Gini, Theil-L and Theil-T. These measures differ according to the weight given to inequality at different parts of the distribution, the Theil-L being most sensitive to low-end inequality changes (see, for instance, Litchfield and Ferreira 1998). They also differ in their decomposability into population sub-group components. The worst in this respect is the Gini: while inter- and intrasectoral components can be identified, these are not independent of one another and (worse) there is a residual component reflecting the overlap between incomes in different sub-groups (Lambert and Aronson 1993).[6]

The Theil-L and -T indices are the sums of deviations of log individual incomes from log mean income divided by population, unweighted and weighted by individual income relative to the mean respectively. Both are decomposable without leaving a residual, so, with v and u representing sectoral income and population shares

$$T = T_{BETWEEN} + T_{WITHIN} = T_{BETWEEN} + [v_U T_U + v_R T_R] \quad (1)$$
$$L = L_{BETWEEN} + L_{WITHIN} = L_{BETWEEN} + [n_U L_U + n_R L_R] \quad (2)$$

The 'between' terms have a natural interpretation in each case: they are what overall inequality would be if *intrasectoral* inequality were eliminated by redistribution. An attractive feature of the Theil-L (but not the Theil-T) is that a similar interpretation holds also for the 'within' term: it is what overall inequality would be if income were transferred from the urban sector to the rural sector, scaling down urban incomes and scaling up rural incomes, so that sectoral mean incomes were equalized.[7] The independence of the between and within components in the case of the Theil-L means that we can clearly separate the 'rural-urban' from the 'intrasectoral' part of changes, as well as of levels, in total

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[6] Specifically: $G = (n_R.n_U.(m_U-m_R)/m) + (n_U.v_U.G_U + n_R.v_R.G_R) + R$, which we could write $G = G_{BETWEEN} + G_{WITHIN} + R$, where n_U, n_R are population shares, v_U, v_R shares in national income, m_U, m_R sectoral mean incomes (we assume $m_U > m_R$) and G_U and G_R are the sectoral Ginis. $G_{BETWEEN}$ is what the overall GINI would be if sectoral incomes were equally distributed, G_{WITHIN} is intrasectoral inequality and R is the 'overlapping' residual. The interdependence of the inter- and intrasectoral components arises because of the presence of the income share terms in the expression for G_{WITHIN}. So, even with no overlapping (R=0), G_{WITHIN} is *not* what G would be if intersectoral inequality were eliminated, since equalizing sectoral mean incomes would change the weights on G_U and G_R.

[7] The presence of income shares as weights in the within term for the Theil-T makes this term dependent on the 'between' term, as for the Gini. So the Theil-T is said to be *weakly* decomposable, while the Theil-L is *strongly* decomposable (Mukherjee and Shorrocks 1982).

inequality. The change in L between two dates can, to first order, be written (m_U, m_R are sectoral mean incomes; m is national mean income):

$$\Delta L = [n_U \Delta L_U + n_R \Delta L_R] + [(v_U - n_U)\, \Delta \ln(m_U/m_R)] + [(L_U - L_R) + (m_U/m - \ln(m_U/m)) + (m_R/m - \ln(m_R/m))]\Delta n_U \qquad (3)$$

The first and second square-bracketed terms are the contributions of intra and intersectoral inequality changes respectively and the third reflects demographic change. The first component of this change, $(L_U - L_R)\, \Delta n_U$, indicates how much overall inequality is increased by the rising population share Δn_U (due to migration, say) in the normally more unequal urban sector. The remaining terms represent a sort of 'Kuznets' component, since they underlie the standard explanation of the Kuznets 'inverted U' hypothesis of the relation between development and inequality (Robinson 1976, Anand and Kanbur 1998): since in the absence of intrasectoral inequality 100 per cent urbanization or ruralization implies zero inequality, population movement towards the numerically smaller sector must (at least initially) be inequality-increasing, unless sectoral mean incomes are equal.[8]

How useful are static decompositions alone? Take the case of the Theil-L. The difficulty is that if, say, the 'between' component has risen and the 'within' component has fallen in equation (2), one does not know from this alone what has happened to the underlying intra and intersectoral inequalities. It might be 'all demography', since changed population proportions will alter both the between and within components even if the two sectoral Theils and relative mean sectoral income are unchanged. However, if one is only interested in qualitative effects, one can simply look directly at what has happened to the three underlying inequalities—but then, of course, the static decompositions as such have not helped. In any case, the informational requirements of static decompositions at two dates are the same as those for the dynamic decomposition between those dates, so there is little reason not to compute the

[8] The Kuznets component of (5) captures this effect: other things equal, urbanization will first raise L and then eventually lower it—if $(m_U - m_R)$ is small (i.e. if $\ln(1 + (m_i - m)/m)$ is approximated by $(m_i - m)/m$ for i=U,R) crossover can be shown to occur when urban and rural populations are equal.

dynamic decomposition and we have done this ourselves in cases where only static decompositions have been reported.[9]

2.3 Rural-urban inequality decompositions: evidence

Tables II.1, II.2 and II.3 give evidence on, respectively, dynamic decompositions of the Theil-L for countries for which this has proved possible, inter- and intrasectoral inequality data in other cases, and a summary of the findings.

2.3.1 Eastern Europe and the FSU

Lundberg and Squire (1999), henceforth LS, show a roughly constant median expenditure Gini from the 1960s to the 1980s and a rise from .248 to .301 in the 1990s. Recent additions to the Deininger-Squire (1996) dataset suggest very large rises in some FSU countries, as do Cornia and Kiiski (Cornia, forthcoming). We have found no quantitative estimates of how much of these rises can be attributed to changes in urban-rural inequality,[10] although Milanovic (1998: 57) reports that, comparing 1987/8 with 1993/4, farmers relative to workers were worse off in 9 of 10 countries with available data. The exception was Romania, the only case for which we have evidence on urban-rural inequality and sectoral Ginis (Table II.2). Indeed, for 1989-93 intersectoral inequality fell, but rises in both sectoral Ginis together with rural-urban migration meant that the aggregate Gini rose.

2.3.2 Latin America and the Caribbean

Londono and Szekely (1997) pool data for the region as a whole to describe the evolution of inequality during 1970-95. They distinguish three phases: (a)

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[9] Similar points can be made with respect to the Gini, although matters are made even more difficult by the residual term in (1), and the presence of income shares in the coefficients in the expression for G_{WITHIN}. For example, a change in G_{WITHIN} might be *entirely* due to a change in urban-rural inequality (with sectoral Ginis and population shares not changing). So static decompositions of the Gini are hard to interpret and even harder to compare. Again, it makes sense to pay most attention to the underlying inequalities; to insist on accounting for change in the aggregate Gini is to create artificial (and usually insoluble) difficulties that are not present with the Theil-L. Unfortunately, however, researchers have historically calculated Ginis rather than Theils, creating 'lock-in' for current attempts to look at long-term trends.

[10] Analysts have tended to place little emphasis on the urban-rural divide. For instance, Milanovic(1998) stresses (a) rising wage inequality associated with a shift of workers from the state sector to the high-inequality private sector, (b) the effect of a shift away from wage income to self-employment and property income, each unequally distributed.

stability and growth together with falling inequality in the 1970s, the regional income per head Gini falling from 0.58 in 1970 to a minimum of 0.54 in 1982, (b) stagnation and rising inequality in the 1980s, the Gini rising back to 0.58 by 1990, (c) growth without changing inequality over 1990-5.[11]

On the OTI hypothesis, we have good evidence for Brazil and Chile, accounting for 34 per cent and 3 per cent of regional population respectively, fair evidence for Honduras in the 1990s, and otherwise only a scatter of urban and rural Ginis from Deininger and Squire, together with some Theils from Panuco-Laguette and Szekely (1996).[12]

To summarize, our evidence on Brazil and Chile is consistent with similar patterns in the two countries and is quite supportive of OTI for the 1980s and 1990s *as a whole*; in addition, the Brazilian evidence suggests that the break at the end of the 1980s identified by Londono and Szekely was also associated with changes in the behaviour of the sectoral components of inequality. Between 1990 and 1995 there were (a) a sharp enough fall in rural-urban inequality to outweigh its rise in the 1980s, and (b) an end to rising intrasectoral inequality, with urban inequality actually starting to fall. These trends may be associated with reduced inflation after 1992. Honduras fits OTI in the 1990s, rising urban and rural inequality being offset by a narrowing rural-urban gap. Nevertheless, Table II.2 shows no uniform trends in either *intraurban* or *intrarural* inequality after 1980.

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[11] Expenditure per person Ginis for this region seem to be lower by about 0.10 than income per person Ginis (see Lundberg and Squire 1999, Table 1).

[12] Summary of Gini data in Deininger and Squire. Argentina GU rises from 1972 through 1989; Colombia: GU declines in 1970s, rises a little in 1980s; GR data not consistent; Costa Rica: GU falls from 1974 to 1982 and rises sharply from 82-84; GR rises slowly 1971-84; Paraguay: GU falls 1983-90; Peru: GU rises 86-91, falls 91-94; GR falls a little 91-94; Uruguay GU(capital) slow decline in 1980s; GR no trend in 1980s. These numbers tell us only that there is no clear pattern in the rural and urban Ginis. The urban Ginis very approximately follow the regional Gini in Colombia, Costa Rica and Peru, but not in Argentina, Paraguay or Uruguay. Since we have no data on urban-rural inequality no static decompositions of the total Ginis are possible. The Theils for Mexico suggest a pattern similar to that of Peru.

TABLE II.1

URBAN-RURAL DYNAMIC DISAGGREGATIONS OF THE THEIL-L

Country	L(0)	L(1)	% within	LU(0)	LU(1)	LR(0)	LR(1)	rel M(0)	rel M(1)	NU(0)	NU(1)	ΔL	%ΔL	% within	% between	% demog
China 88-95	0.258	0.378	61.8					2.05	2.47			0.120	46.51	38.6	7.7	0.20
Indonesia 87-93	0.228	0.239	77.7	0.22	0.23	0.16	0.15	2.00	2.06	0.26	0.32	0.011	4.82	-1.36	1.84	4.50
Thailand 88-92	0.365	0.478	82.7					2.90	3.62			0.113	30.96	11.55	19.22	0.2
Philippines 65-71	0.190	0.200	83.0	0.21	0.16	0.14	0.16	2.52	2.07	0.30	0.30	0.010	5.26	3.50	1.76	0.00
Philippines 71-85	0.200	0.150	80.0	0.16	0.15	0.16	0.11	2.07	2.11	0.30	0.38	-0.050	-25.00	-24.50	-3.33	2.78
Philippines 85-91	0.150	0.170	83.0	0.15	0.17	0.11	0.11	2.11	2.17	0.38	0.50	0.020	13.33	12.28	2.04	-1.02
Chile 87-94	0.527	0.485	95.0	0.53	0.47	0.35	0.40	2.06	1.91	0.80	0.83	-0.042	-7.98	-6.60	-1.20	-0.10
Brazil 81-90	0.614	0.705	83.0	0.54	0.62	0.44	0.53	3.00	3.23	0.71	0.74	0.091	14.82	14.20	1.70	-1.00
Brazil 90-95	0.705	0.66	88.6	0.62	0.6	0.53	0.53	3.23	2.88	0.74	0.78	-0.045	-6.40	-2.21	-2.75	-1.43
Brazil 81-95	0.614	0.66	83.0	0.54	0.6	0.44	0.53	3.00	2.88	0.71	0.78	0.046	7.49	10.37	-1.06	-1.83
Ghana 88-92	0.209	0.187	93.3	.185/ .202	.214/ .189	0.194	0.179	1.74/ 1.14	1.27/ 1.09	.082/ .263	.071/ .281	-0.022	-10.53	-5.20	-7.45	2.13

Notation: '0', '1' refer to beginning and end of period; L, LU, LR = total urban, rural Theil-L; relM = relative urban income or expenditure; NU= urban population share. For Ghana Theils and urban population shares are Accra/other cities, relative means are 'Accra to rural/ other cities to rural. Elaboration: The first block of three data columns shows overall inequality at the beginning and end of the period, together with the percentage of intrasectoral inequality at the beginning; the next block of eight columns shows beginning and end values of *intraurban*, *intrarural* and urban-rural inequalities and urban population shares; the final block of five columns shows the change in overall inequality, absolute and as a percentage of initial inequality, and the breakdown of the percentage change into contributions from intrasectoral, intrasectoral and demographic components.

Source: see Appendix 1.

TABLE II.2
INTER- AND INTRASECTORAL INCOME/EXPENDITURE INEQUALITY

Country		T	TU	TR	MU/MR	NU	GINI	GINI(U)	GINI(R)
FSU/EE									
Romania	1989				1.083	46.2	0.210	0.192	0.226
	1993				1.018	54.4	0.225	0.211	0.241
Latin America									
Colombia	1978				x		0.545	0.516	0.526
	1988				1.26x		0.512	0.485	0.469
Costa Rica	1971								0.370
	1974							0.452	
	1982							0.415	0.398
	1984							0.484	0.406
Honduras	1989						0.540	0.450	0.480
	1990				3.67/2.09				
	1993				2.37/1.71		0.540	0.530	0.510
Mexico*	1984	0.394	0.284	0.282					
	1989	0.506	0.354	0.290					
	1992	0.502	0.349	0.280					
Peru	1986						0.428	0.320**	
	1991						0.390	0.370**	
	1991							0.353	0.371
	1994						0.449	0.350	0.367
Uruguay	1981							0.436	
	1984								0.397
	1987								0.391
	1989							0.424	
S. Asia/China									
India	1963/4				1.77			0.365	0.290
	1973/4				1.29			0.315	0.283
	1983				1.42			0.334	0.301
	1989/90				1.38			0.356	0.282
	1997				1.31			0.361	0.301
Bangladesh	1984				1.33	0.117	0.255	0.295	0.243
	1989				1.49	0.135	0.279	0.318	0.260
	1996				1.80	0.165	0.310	0.360	0.264
China	1978				2.37		0.317	0.160	0.212
	1983				1.70		0.284	0.150	0.246
	1988				2.05		0.382	0.230	0.301
	1991				2.18		n.a.	0.240	0.307
	1995				2.47		0.430	0.280	0.340
Pakistan	1979				1.61		0.370	0.400	0.320
	1985/86				1.55		0.360	0.350	0.330
	1990/91				1.26		0.410	0.390	0.410

Sri Lanka*	1970	0.184	0.2295	0.1661	1.45				
	1981	0.168	0.2163	0.1503	1.38				
	1985/86				1.47	0.208	0.320	0.357	0.299
	1990/91				1.33	0.209	0.297	0.354	0.276
E. Asia									
Indonesia	1984				1.71		0.324	0.334	0.293
	1990				1.65		0.331	0.347	0.264
Korea	1966						0.340	0.400	0.200
	1969						0.340	0.380	0.190
	1972						0.330	0.380	0.220
	1975						0.380	0.460	0.210
	1978						0.380	0.430	0.210
	1981						0.360	0.410	0.180
	1984						0.380	0.430	0.150
	1987						0.380	0.420	0.120
	1990						0.400	0.440	
	1993						0.390	0.410	
Thailand	1962						0.410	0.360	0.360
	1969	0.322	0.338	0.253	2.73	0.109	0.420	0.440	0.390
	1975	0.298	0.272	0.258	2.27	0.132	0.420	0.410	0.400
	1981	0.335	0.308	0.290	2.09	0.133	0.440	0.430	0.420
	1986						0.470	0.460	0.450
Malaysia	1957						0.450	0.440	0.410
	1970				2.14		0.510	0.480	0.450
	1973						0.510	0.490	0.450
	1976						0.520	0.490	0.470
	1979						0.500	0.480	0.470
	1984						0.480	0.440	0.420
	1987						0.460	0.430	0.420
	1990				1.71		0.450		
	1995						0.460		
Philippines	1957				2.45		0.480	0.440	0.380
	1961				2.47		0.500	0.520	0.400
	1965				2.52	0.30	0.510	0.510	0.420
	1971				2.08	0.30	0.490	0.450	0.460
	1975				1.75				
	1985				2.11	0.38	0.450	0.440	0.380
	1988							0.420	0.380
	1991				2.17	0.50	0.480	0.470	0.390
Middle East/N. Africa									
Jordan	1986/7						0.361	0.362	0.319
	1992						0.432	0.435	0.384
Morocco	1984/5						0.391	0.405	0.317
	1990/1						0.392	0.382	0.312
SSA									
Côte d'Ivoire	1985				1.81				
	1988				1.64				
Lesotho	1986/7						0.570	0.570	0.550
	1993						0.570	0.580	0.550

Madagascar	1962			0.500	0.290
	1980			0.487	0.435
Malawi	1968/69			0.620	0.203
	1984/85			0.621	0.453
Tanzania	1991		0.570	0.460	0.600
	1993	?/1.21	0.410	0.420	0.350
	1995	3.04/1.29	>0.410	?	0.520
Uganda	1989		0.368	0.371	0.364
	1992		0.383	0.439	0.353

Note: as Table II.1. T = Theil(T) except starred countries (Mexico and Sri Lanka), for which the data are for the Theil (L). The 'x' in the data for Colombia is there because the data provided in the World Bank Poverty Assessment only permitted calculation of the change in the ratio of sectoral mean incomes per capita. '**' means Lima only.

Sources: see Appendix 1.

Brazil 1981-95 (Ferreira and Litchfield (1999), Litchfield pers. comm.; Table II-1). Between 1981 and 1990 Brazilian inequality (of gross income per head), already one of the highest in Latin America, rose from .571 to .607 according to the Gini (Londono and Szekely 1997), and from .614 to .705 according to the Theil-L. Rising intrasectoral inequality accounts for almost all (96 per cent) of the rise in the Theil-L; 11.5 per cent comes from rising intersectoral inequality (the ratio of urban income to rural income rose from 3.00 to 3.23 in the period) and minus 7 per cent comes from demographic change (this can be broken down into plus 4 per cent associated with migration towards the more unequal urban sector and minus 10 per cent associated with the Kuznets effect—in this case, migration is towards the smaller sector; urbanization in Brazil was already 71 per cent in 1981).

Between 1990 and 1995 inequality fell back (the Theil from .705 to .660). Both the intra- and intersectoral components contributed to this. However this was not a simple partial reversal of the 1981-90 changes. Changing intrasectoral inequality contributed proportionally far less than in the earlier period (rural inequality did not fall at all), while rural-urban inequality fell sharply (relative mean income fell from 3.23 to 2.88) Demographic change continued to lower inequality via the Kuznets effect.

The asymmetry between the sub-periods means that, for the whole period 1981-95, the evidence fits the OTI hypothesis quite well (Table II.3). Overall inequality rose by 7.5 per cent, with rises of 11 per cent and 20 per cent in urban

TABLE II.3

INTER- AND INTRASECTORAL INEQUALITY: SUMMARY

Country	R-70s	R-80s	R-90s	U-70s	U-80s	U-90s	UR-70s	UR-80s	UR-90s	OTI?
FSU/EE										
Romania			+			++			-1	yes
Latin America										
Brazil		+++	0		++	-		+2	-7	yes
Chile		+	+		-	-		-	2	partial
Colombia		-			-			+2		no
Honduras			++			+6+			-43/-13	yes
Mexico		0			++					?
Peru			0		+++					?
S.Asia/China										
India	0	0	0	0	0	0	0	0	-1	slight
Bangladesh		+	0		+	++		+3	+4	no
China		++	++		++	++		-3	+6	78-83, yes 78-95, no
Pakistan		++			0			-2		yes
Sri Lanka	0	-		0	0		-1	-1		no
E.Asia										
Indonesia		-	0		0	0		-1	+1	?
Korea	-	---		0	+	---				
Thailand	+	++		0	++		-6	+	18	no
Malaysia	0	--		0	--		-2	-2		no
Philippines	-	0		0	+		+1	+1		no
M.East/N.Afr.										
Jordan		+++			+++					?
Morocco		0			-					?
SSA										
Côte d'Ivoire								-3		?
Ghana		-			++/-			-12/-1		no
Lesotho			0			0				?
Madagascar	++			0						?
Malawi	++	+		0	0					?
Tanzania			0			-?			+6?	no
Uganda			--			+7+			+?	no

Notes: (a) Gini changes: One + for .003/yr to .006/yr, two for .006-.009, etc; same for minuses. 0 is between -.003 and +.003; for very sharp changes, we use +N+ to stand for N plusses (b) UR gives per annum changes in mu as % of mr; (c) / shows numbers for capital and other urban respectively; within-cell alignment indicates period within decade.(c) Indications marked '?' for Tanzania and Uganda are very tentative.

Source: see Appendix.

and rural sectors being somewhat offset by a 4 per cent fall in intersectoral inequality together with continuing Kuznetzian equalization via migration. However, since OTI fails in each sub-period and significant adjustment began

only in 1992, the Brazilian case does not support the theory that adjustment causes OTI. In considering the macroeconomic correlates of the inequality trends of the 1980s, Ferreira and Litchfield find that inflation (rather than unemployment or GDP growth) is the variable most closely associated with inequality The first half of the 1990s lends some support to their view: adjustment eliminated hyperinflation and overall, intersectoral and intrasectoral inequality all fell.

Ferreira and Litchfield perform dynamic disaggregations of the Theil-L with respect to age and gender of household head, region and education. Only for the urban-rural and education disaggregations does the unexplained (intrasector) component account for less than 100 per cent of the total change. It is noteworthy that, for education, it is the Kuznets effect (a tendency of population shares in different educational categories to become more equal) that accounts for most of the explained component (about 30 per cent of the total inequality rise).

Chile 1987-94 (Ferreira and Litchfield (1999), Table II.1) Chile's inequality trend since 1980 appears to follow Brazil (and aggregate Latin America), albeit at a lower level, except that there is evidence of a rather earlier peak in the Gini at about 1987.[13] We have no evidence on the intra- and intersectoral components during the period of rising inequality. In 1987, within-sector inequality accounted for 93 per cent of total inequality. Over 1987-94, the Theil-L for income per equivalized adult fell from .527 to .485; about 15 per cent of the fall was attributable to a fall in intersectoral inequality and almost all of the remainder to a fall in intrasectoral inequality. In Chile, the net fall in intrasectoral inequality (in contrast with Brazil) can be traced to the urban sector alone, where inequality fell enough to swamp rising rural inequality. Behind a very small demographic contribution lie offsetting effects just like those in Brazil—urbanization raises inequality inasmuch as the urban sector is more unequal but lowers inequality by the Kuznets effect. So Chile provides only partial support for the OTI hypothesis, essentially because in the recovery period urban inequality was falling. Litchfield and Ferreira find that, as in Brazil, the educational partition is informative. Demographic change is again unequalizing.

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[13] The aggregate data in Deininger and Squire suggest the 1987 peak; Ferreira/Litchfield show a fall from 1987-90 and little change post-1990. Londono/Szekely find a continuing fall over 1990-4; one difference between these studies is that F/L use income per equivalent adult while L/S use income per adult.

as population shares in different subgroups (educational categories) become more equal, but this is swamped by an important convergence in subgroup income means together with equalizing within-subgroup change.

Honduras 1989-93 (World Bank (1994: 13317-HO), and Table II.2) Honduras in this period fits the Londono/Szekely characterization, with the income per person Gini roughly constant.[14] Inequality in both urban and rural sectors rose, while intersectoral inequality fell, mean income in the capital falling by 35 per cent, and mean income in the urban sector falling by 19 per cent, relative to mean rural income. These trends are certainly consistent with the OTI hypothesis. Noteworthy are the fall in the relative urban-rural wage by 20 per cent and the relative public-private sector wage by 17 per cent in the period and a 60 per cent real devaluation over 1988-92;[15] *prima facie*, a link from adjustment to, at least, the intersectoral component of the hypothesis seems plausible in this case.

2.3.3 South Asia and China

LS suggest, for the region, a see-saw pattern, with inequality falling between the 1960s and the 1970s, rising in the 1980s and falling back in the 1990s. The two Asian giants present a stark contrast. India, with 36 per cent of the regional population, has experienced almost no movement in either intersectoral or intrasectoral indices of inequality. In China (47 per cent of the regional population) there have been sharp movements in all of the indices that appear to reflect the particular sequence of policy reform chosen there. The OTI hypothesis finds support in this region only in the case of Pakistan in the 1980s and for China during 1978-83. Otherwise we find the indices moving together—up in China after 1983 and in Bangladesh and down in Sri Lanka.

China 1978-95: The relative income data and Ginis in Table II.2 reflect the changing focus of economic reform in the country since 1978. From 1978 to 1983, with egalitarian quasi-privatization of farmland and some reduction of price and quota extraction from agriculture, urban-rural inequality fell sharply (relative urban income fell by 28 per cent); urban inequality also fell a little. Despite land reform, the regionally very skewed growth in cereals yields (and the growth of less labour-intensive rural non-farm enterprises) meant that rural inequality rose—but not by enough to prevent the overall Gini falling by about

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[14] The poverty assessment, p.64, notes that property income is excluded

[15] 13317-HO Table C-4 and Statistical Appendix.

10 per cent. Post-1983, the focus of reform shifted to the urban sector, with aggregate enterprise wages tied more closely to labour productivity and greater freedom given to enterprises to vary wages among employees (Zhang 1997: 6); throughout 1983-95 we observe substantial rises in total, intra- and intersectoral inequalities.[16] Zhang's analysis of the change in the Theil-L over 1988-95 shows (a) a remarkable rise by global standards of 46.5 per cent in total inequality, (b) that 83 per cent of this rise is within-group and virtually all of the rest is between-group. The Ginis tell us that inequality was rising fast in both sectors during this period, although faster in the urban sector. OTI is clearly refuted *for the period as a whole*. It might be held that this is unsurprising in an economy where central decisions have had so great an influence both on the 'initial conditions' and on the sequencing of reforms. Nevertheless, Chinese experience does contradict the idea that adjustment and liberalization must narrow the urban-rural gap: the unequalizing effects of industrial liberalization have clearly outweighed the earlier equalizing effects of agricultural liberalization.

India 1963-97: There are a great deal of data available for India, and comparative analysis of Indian regions can be informative (Datt and Ravallion 1996), but relative to many other countries very little has happened since 1973—Table II: 2 and more complete data in Jha (1999). Urban-rural inequality clearly fell in the decade to 1973, after which a slow rise to a peak around 1983 was matched by a similar slow (and non-monotonic) fall over 1990-7. Urban inequality has risen slowly throughout the period and rural inequality has hardly changed, although there is the suggestion of a shallow trough centred on 1990, the year that the reform process began. Does OTI work here? There is some evidence for slight OTI post-1990, but the extent of year-to-year fluctuation evident in Jha (1999), table 4, suggests caution.

Bangladesh 1984-96: The data in Table 2, based on Wodon (1999), reveal trend increases through the period in rural-urban inequality (a rise in relative income of 35 per cent), in intrasectoral inequalities and in overall inequality. Wodon's data permit disaggregations of the Gini a la Aronson/Lambert (footnote 6), given below:

Year	G	G_B	G_W	R
1983/94	.255	.033	.187(.004+.182)	.036

[16] See Zhang (1997) for a range of inequality disaggregations, both by population sub-group and by income source.

1988/89	.310	.098	.178(.016+.162)	.034

The bracketed terms give the disaggregation into urban and rural contributions respectively. As remarked earlier, these disaggregations add little to the array of relative mean incomes and Ginis given in Table II.2. Nevertheless the quantitative importance of raised intersectoral inequality is visible as well as that of raised urban inequality, i.e. the OTI hypothesis is rejected. The fall in R presumably reflects reduced overlapping as the urban and rural means diverge. What is not clear (and what a Theil disaggregation would reveal) is the effect of migration: rural-urban migration has been significant in the period and both components of its impact on the Theil would be inequality increasing.

Sri Lanka 1970-91: Glewwe (1986) shows a fall in the Theil-L and each of its components between 1970 and 1981. Together with the World Bank Poverty Assessment, this also shows that relative urban/rural consumption per person returned to its 1970 level during the first half of the 1980s. The Poverty Assessment also permits a Lambert/Aronson disaggregation of the consumption per person Gini over 1985/6 to 1990/1, as follows (in the brackets, the first component is the sum of the urban and estate sector contributions):

Year	G	G_B	G_W	R
1985/86	.320	.072	.164(.022+.142)	.084
1990/91	.297	.051	.155(.020+.135)	.092

Demographic change is insignificant in this case, making interpretation easier: the fall in the Gini reflects falls in urban-rural inequality and rural inequality, urban inequality being hardly changed. In sharp contrast to the Bangladesh case, urban consumption per person in Sri Lanka fell during 1986-91 (by some 5 per cent). So, as regards urban-rural inequality during adjustment, it might be permissible to view the urban sector as the 'motor', pulling mean sectoral consumptions apart in Bangladesh (and stimulating migration) with positive responses to incentives in the employment-intensive urban garment industry, but pushing the sectoral means together as urban income fell in Sri Lanka.

Pakistan 1979-91: Changes in overall, *intrarural*, and probably rural-urban inequality in Pakistan in 1979-1985/6 were well within the range of measurement error plus harvest-related shocks (Table II.2). Alongside the significant fall in the *intraurban* Gini, these changes—during very modest adjustment—support neither OTI nor a major adjustment impact on distribution

overall. From 1985-6 to 1990-1, however, alongside more rapid adjustment, there were substantial annual falls in rural-urban inequality—only partly offset by very substantial rises in the urban and (even more) rural Ginis. OTI applied strongly in this period, but neither adjustment nor other policies and events could prevent a sharp rise in the overall Gini, despite the rural-urban equalization.

2.3.4 East Asia (other than China)

LS suggest, for the region, that inequality was roughly constant from the 1960s to the 1980s—at roughly South Asian levels—but that there was a discernible increase between the 1980s and the 1990s (see also Ahuja *et al.* 1997). We find no evidence for the OTI hypothesis in this region. Where inequality has changed rapidly (in Thailand over 1988-92), there seems to be a parallel with China and Bangladesh, with the urban sector pulling away from the rural sector and intrasectoral inequality rising at the same time.

Indonesia 1976-95: Deininger and Squire report a series of observations every 2-3 years for urban and rural Ginis of expenditure per household and the national Gini of expenditure per person, from the same national source, for 1976-90. These indicate:

- rises in all three Ginis during 1976-8;
- post-1978: a steady fall in the rural Gini; a U-shaped pattern for the urban Gini and the overall Gini, the floor being at about 1986.[17]

For 1987-93, the data in Akita *et al.* (1999) allow a dynamic decomposition of the Theil-L, reported in Table II.1. This indicates a 5 per cent rise in inequality which is 'anti-OTI': a small rise in the rural-urban gap is mostly offset by a small fall in intrasectoral inequality.[18] In a statistical sense, demography accounts for almost all of the rise in inequality. Urbanization rose from 26 per cent to 32 per cent and, since migration was towards the smaller and more unequal sector, both of the demographic components were unequalizing.

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[17] Akita (1999) suggest that urban inequality may have started to fall again during 1990-3.

[18] Taken together with the fall in rural-urban inequality over 1984-90, one may conclude that the rural-urban gap is likely to have hardly changed over 1984-93.

Korea 1966-93: From the Ginis alone we can discern rises in total and urban inequality between the 1960s and 1970s, no significant changes in either since then, but secular decline in rural inequality post-1972.

Thailand 1962-92: The gross income/household Gini in Thailand rose continuously in the period, accelerating around 1980 and by 1992 reaching a level (0.536) atypically high for the region (PA 15689-TH, 10).[19] During 1975-81 (not a period of adjustment) the OTI hypothesis fits: a fall in urban-rural inequality was outweighed by rises in sectoral inequalities (Table 2). Thereafter it appears that all three components of inequality rose through to 1988 at least. The dynamic disaggregation in Table II.1 shows that intrasectoral inequality increase also contributed to the huge (31 per cent) rise in the Theil-L over 1988-92, but we cannot say how this was divided between urban and rural components. What is striking is the large rise in urban-rural inequality—73 per cent—between 1981 and 1992. This is reflected in the dynamic disaggregation of the inequality change over 1988-92: the marginal contribution of raised urban-rural inequality far exceeds the average, as is supported by 'eye evidence' of an emerging super-rich Bangkok elite. In the case of Thailand, therefore, the OTI hypothesis fits the pre-adjustment period 1975-81, but is rejected for the more recent period 1981-92, especially in 1988-92, when inequality rose fastest. Thailand denies the hypothesized pattern of a recent OTI 'take-over' that would make worsening inequality trends more surprising. On the contrary, as in China and Bangladesh, so in Thailand: *recently deepening overall Asian inequality is in substantial part associated with deepening rural-urban inequality*. In China and Thailand, a main explanation is probably that, in recent growth, largely rural regions of 'core poverty'—northern and western China, northeastern Thailand—are being left behind.

Malaysia 1970-90: The Ginis in Table 2 suggest falling total, intersectoral and urban inequality in the period overall. The exception is that there seems to have been a small rise in total inequality in the 1970s, associated with a temporary rise in rural inequality. Gradual liberalization after 1980 was accompanied by the Bhumiputra policy; this policy favoured a low-income group, so would be expected to have reduced inequality overall and by component.

Philippines 1957-91: From the mid 1950s to the mid 1980s, the evidence in Table II.2 suggests: (a) inverted-U patterns for rural, urban and total inequality,

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[19] Samtisart (1999) reports a slight fall in the overall Gini during 1992-6.

(b) from the mid 1960s to the mid 1970s a sharp narrowing of the urban-rural gap. Latterly, all components of inequality seem to have turned upwards, the floor for intersectoral inequality having been reached in about 1975 and the sectoral and aggregate floors in about 1988.

For 1971-91, Table II.1 reports dynamic disaggregations based on Estudillo's analysis for 1971-85 and 1985-91 separately. These disaggregations, however, appear to contain an inconsistency[20]. That apart, the choice of sub-periods suppresses the substantial fluctuation in intersectoral inequality that is shown in Table II.2 to have occurred in the 1970s. So the conclusion that might be drawn from the disaggregations—that intrasectoral inequality change was most of the story—would be misleading.

2.3.5 Middle East and North Africa

LS suggest a steady and significant decline in median Ginis since the 1970s. We can say almost nothing about urban-rural disaggregation of inequality. Observations on Moroccan Ginis for 1984/5 and 1990/1 hint at flat inequality overall and a slight fall in urban inequality in a period when there was a good deal of adjustment going on. The same period reveals sharp rises in total, urban and rural expenditure per person Ginis for Jordan, also an adjusting country at this time. Among factors which might perhaps account for the contrast is relatively high inequality of access by gender to economic opportunities in Jordan.

2.3.6 Sub-Saharan Africa

LS find a sharp rise in the median Gini (from .422 to .489) between the 1960s and the 1970s, reversed in the 1980s, with a perceptible rise between the 1980s and the 1990s. We have complete evidence for two dates on the rural-urban inequality breakdown only for Ghana (Table II.1), together with partial evidence for five other countries (Tables II.2, II.3). However, a test of the OTI hypothesis would require evidence from the 1990s, and we have reliable evidence only for Ghana, where OTI is not supported. Such tentative indications as we have for Tanzania and Uganda are also not supportive of OTI: for instance rural-urban inequality seems, if anything, to have widened in the early 1990s in those

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[20] The contribution of intersectoral inequality change during 1971-85 is shown as negative, which in view of the *rise* in relative urban income (and the fact that it exceeds −1) is impossible in view of equation (3) of this paper.

countries. The case of Ghana raises the interesting possibility, also visible in Honduras, that 'capital city versus the rest' might be as interesting a disaggregation in some circumstances as 'urban versus rural'.

Ghana 1988-92: This period for Ghana was one of structural adjustment, partly associated with the 'Economic Recovery Program' adopted in 1983. The disaggregations of the Theil-L are based on a three-way division into Accra/other cities/rural; nonetheless as much as 93 per cent of inequality is in the unexplained intrasectoral component.

In the period inequality fell by some 10.5 per cent, of which 7.5 per cent was intersectoral, 5.2 per cent intrasectoral and minus 2.1 per cent demographic. So the marginal *intersectoral* component was far larger than the average, and this can be traced to the sharp fall in relative per capita expenditure in Accra. Structural adjustment entailed cuts in public sector employment, the effects of which were particularly strong in Accra, where alternative employment opportunities proved especially inadequate to the volume of workers displaced. Thus not only did relative mean expenditure fall in Accra, but its population share fell, while that of other cities increased (by more). As regards the *intrasectoral* component, inequality unsurprisingly rose in Accra but this was outweighed by falls in the other two sectors.

III CHANGING RURAL-URBAN POVERTY RATIOS AND URBAN BIAS

3.1 Introduction

This section examines trends in rural and urban poverty indices and—in particular—the rural to urban *ratios* of such indices. Levels and trends of such ratios are, of course, linked to levels and trends in inter- and intrasectoral inequality indices, but are of independent interest for several reasons. First, policy should concern itself more with poverty than with inequality as such: for instance, transfers among the better-off that reduce inequality without touching poverty should be of second-order concern. Second, sustained excess of relative

(rural-urban) poverty above unity[21] is—if long-term differences in the innate characteristics of rural and urban inhabitants are excluded—a sign both of 'arbitrary' inequality associated with accident of birthplace, and of the presence of barriers to the rural-urban migration of people and the urban-rural flow of capital. Furthermore, such a relative poverty excess may indicate the presence of urban bias, in that there are identifiable changes in policies or institutional structures that would both reduce the rural-urban imbalance and raise efficiency. How is relative rural poverty linked to inter- and intrasectoral inequality? Clearly, relative rural poverty will tend to fall if (a) rural-urban inequality falls, (b) urban inequality rises, (c) rural inequality *falls*.[22] So there is no neat link to the OTI hypothesis. Nevertheless, it is useful to consider what is happening to these three inequality measures in a given case. For example, a fall in relative rural poverty that is associated largely with a fall in rural-urban inequality rather than changes in sectoral inequalities *may* indicate a fall in urban bias. Care is needed here; rural-urban inequality is an imperfect indicator of urban bias because (a) it can change for demographic or exogenous reasons, and (b) *intrarural* inequality tends to increase net outflows of savings, skills and tradables from rural to urban sector and is thus arguably in the interests of the latter (Lipton 1977). Nevertheless, analysing comparative trends in rural and urban poverty helps us to assess an influential current 'development discourse' about the linkage between macro-economic policy, urban bias, and poverty reduction. The discourse is well exemplified by the World Bank's Madagascar Poverty Assessment (1996 PA 14044-MAG: 11-12):

> '(I)n the mid 1970s ... interventionist economic policies (were) characterized by widespread nationalization, extensive price and marketing controls which were particularly severe in the agricultural sector, extremely high tariffs, high taxation of agricultural exports, a chronically overvalued exchange rate, and a public investment programme that gave priority to large capital-intensive projects with low returns, while neglecting investments in ... rural infrastructure and the social sectors. These policies favoured urban over rural areas, where most of the poor live ... The legacy of these policies has been a relative decline of agriculture ... which provides

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[21] Or below unity, of course.

[22] Paradoxes can arise, especially for the incidence measure of poverty. For example, if individuals are bunched just below the poverty line in only one sector, then a small rise in everybody's income in that sector can greatly reduce poverty incidence; the same rise in the other sector would achieve little.

> a livelihood for the majority of the country's poor ... and public expenditure programmes that for several decades have neglected ... areas ... from which the poor are major beneficiaries.. Not surprisingly, not only did poverty increase in this period but so did inequality ... From 1987 the government took measures to stabilize the macro-economic situation and to reform the economy ... These measures had several positive effects. There was an economic recovery ... domestic terms of trade (moved) in favour of the rurai sector. Liberalization resulted in an expansion of non-traditional agricultural exports ... However, the deterioration in rural infrastructure prevented a recovery of traditional agriculture and (following protests in 1991) the stabilization and reform programmes were derailed (and GDP per person fell through 1994)'.

Few would deny that poverty reduction in many countries, probably including Madagascar, has been impeded by interventionism inimical to progress in the agrorural economy; and that such policies reflected urban bias and contributed to overall (not just rural-urban) inequality. Yet many analysts, some in the World Bank itself, would see the above account as only half the story. As regards agricultural development, if poor farmers are to show high supply elasticity (and hence poverty reduction) in response to the new market incentives, the State has not only to *slash* its direct production and price regulation, but also to *boost* expenditures to spread access to land, knowledge and human capital; to support agricultural research and its application; and to reduce rural risk and insecurity, through measures ranging from water management, through nutrition and health programmes, to rural roads. As regards political economy, simply moving from a dirigiste to a market-oriented economy does little to reduce the pro-urban power biases that have prevented adequate public focus on, and spending for, rural development. Unless those biases are reduced, there is little prospect for the shifts in public expenditure, required to make the post-reform dispensation more amenable to poverty reduction (via rural focus and hence growth and equalization) than was the old. The non-sustainability of some adjustment programmes, as in the above account of Madagascar—and the limited gains to the poor from 'structural adjustment', even in the quite frequent cases where it has improved economic performance—is probably inherent in the one-sided nature of the reforms.

3.2 Choice of poverty variable

We shall discuss changes in two indicators of poverty: the proportion of population below the poverty line[23] (incidence or headcount, H) and the poverty-gap index, PGI (incidence times intensity, HI, where I, 'intensity' (also called the 'income gap ratio' or depth) is the poor's mean proportionate shortfall below the poverty line).[24] The urban/rural ratio of PGI is our preferred index of relative rural poverty, for reasons discussed below. Not many countries have surveys sufficiently far apart for trends in this ratio (or even in the rural/urban incidence ratio) to be estimated. Moreover, trends in the ratio often cannot be extracted. Despite the goodwill and efforts of many individuals, the governments or agencies either refuse to release grouped poverty data, or allow access only at prohibitive cost. 'Information obtained at public expense should be publicly available' (Stiglitz 1999). The best indicator of relative rural poverty, for our purposes, is the changing *ratio* of the urban to the rural poverty gap index (PGI). Trends in incidence (headcount index, H) can be arbitrarily affected by the distribution of poor persons below the poverty line (see footnote 22). Absurd conclusions about trends in the urban/rural poverty balance could be drawn from trends in the urban/rural ratio of H, especially as we know that the rural poor tend to lie further below the poverty line.

Assessing the urban/rural poverty trends through trends in the urban/rural ratio of PGI avoids this problem, since falls in the depth of poverty among the poor, while not affecting a sector's H, do reduce its PGI. Moreover, the PGI measures the 'burden of poverty' and the cost-per-head of eliminating it, if there are perfectly targeted transfers and no transactions or incentive costs. When the ratio between urban and rural PGI is unity, cost-per-head of eliminating poverty is the same in the two sectors; as the ratio tends towards (away from) unity, so the 'burden of poverty' as between sectors becomes more (less) similar. It is

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[23] This is sometimes the World Bank's standard (constant 1985 purchasing power) US$30/month poverty line, defined for consumption per person, but some countries use national poverty lines, and/or income, and/or per-equivalent-adult data. Sensitivity tests, especially to variations in the poverty line (dominance tests: fn. 1), are sometimes carried out. See sources cited here, and on measurement issues Ravallion (1992) and Lipton and Ravallion (1995). International comparisons of poverty levels are risky. Trend comparisons, however, are feasible, especially where dominance tests have been done.

[24] Intensity in itself tells us little about poverty; we need to know how many people suffer it. The PGI indicates, in a sense, the amount of poverty, since it is the cost, per head of population, of ending poverty if transfers could be perfectly targeted.

equitable for a person's risk of poverty, times the depth of poverty if that risk materializes, to be unaffected by arbitrary factors such as, say, first letter of name, or urban or rural residence—or by market-power, or state actions, discriminating on any of these grounds. It is also *efficient* for such discrimination to be reduced, either by the balance of public actions against poverty, or through private action, e.g. as those in the high-poverty sector acquire information and save up the fixed costs of migration to the low-poverty sector (absent overriding negative externalities from such migration, it is also efficient not to impede it). Also, as a first assumption, it is efficient and equitable to allocate public poverty-reducing resources between sectors in ways that, while reducing their PGIs, tend to bring them down to the same level (eventually near zero).[25] Assuming that rural and urban sectors continue to enjoy roughly similar returns to such resources, it is therefore reasonable to see (a) similar rates of decline in rural and urban PGI as a sign (not proof!) of unchanged efficiency and equity, and perhaps unchanged bias, in resource allocation, incentives and institutions between these areas, and (b) convergence (divergence) between rural and urban PGIs as a sign of increasing (decreasing) rural-urban equity and efficiency.[26]

Table III.1 shows national changes in rural, urban and national H and PGI. Only in Bangladesh, Colombia, Indonesia and Jordan can we add decompositions of such changes into the effects of (a) growth of the group's mean income, (b) changed distribution within the group (i.e. *intrarural*, *intraurban* or intranational), and (c) a residual.[27] The severe data shortage, especially for long

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[25] That assumption can be overturned, e.g. if a particular type of 'rural person' proved specially recalcitrant to poverty-reducing expenditures, so that their returns were systematically low. (However, the low propensity of a rural region to generate high poverty reduction, per marginal unit of cash, is an efficiency argument NOT for a smaller spending effort relative to PGI for its inhabitants on those grounds, but for a similar relative effort focused on poverty reduction via migration rather than in situ.)

[26](a) If the PGI in one sector, say the urban sector, gets close to zero, say 2-3 per cent, one should probably expect that on efficiency and equity grounds rural PGI should decrease *faster* than urban. The residual 2-3 per cent probably comprises poor people who are virtually unreachable or unaidable, and/or people with unusually low needs (e.g. for food, due to low body size or metabolic rate) for whom a poverty line below the normal standard would be appropriate. (b) In principle, policymakers might seek urban-rural convergence for a poverty severity indicator such as alpha-two, instead of for PGI. However, unlike PGI, a severity indicator cannot measure the cost or burden of poverty in a sector.

[27] (i) The published decompositions of change in H and PGI are into the effect of mean income growth and of shifts in the fitted Lorenz curve. There is inevitably a residual in this case. (ii) For some countries we have informal indications of the extent to which changes in

periods and for Africa and transitional countries, is striking; many surveys do not publish even one year's mean rural and urban income, let alone urban and rural trends in poverty. The following discussion goes beyond the few countries with PGI trends in Table III.1. Where only headcount trends can be compared between urban and rural sectors, there are sometimes hints about sectoral PGIs. Otherwise, inferences on rural and urban poverty trends from H only are weaker; however, in the eight countries where trends in the urban/rural ratio for headcount and PGI are both available, they move in the same direction. Our discussion will also consider information for countries not shown in Table III.1. Though the information is spotty and imperfect, a clear message across countries begins to emerge, and there is no reason to believe that they are affected by systematic distortions (e.g. mismatch of trends in rural/urban ratios in H with trends in the ratios for PGI).

3.3 Evidence on trends in rural/urban poverty ratios

While we prefer to assess trends in the relative rural poverty in terms of the PGI, Table III.1 shows that, where both PGIs and incidences are available, relative rural incidence and relative rural PGI moved in the same direction[28]. Using either PGIs or incidences, we see from table III.1 that, of the four countries where changes in incidence and/or PGI of urban and rural poverty can be decomposed into growth and distribution effects (plus a residual), rural-urban differences in changes of the mean are driving changes in relative rural poverty in Jordan, Indonesia and Bangladesh; only in Colombia is intrasectoral distribution playing the main role. Also, combining table III.1 (last column of

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the urban/rural poverty ratios are associated with changes in intrasectoral distributions as against changes in sectoral means.

[28] In Table III.1 India appears to be an exception over the complete period 1957/8-97 (though not over the subperiods before and after reforms: both the PGI ratio and the incidence ratio fell in 1957/8-1989/90, and then rose to 1997); rural/urban poverty gap indexes converged in 1958-97, yet poverty incidences appear to have diverged. That, however, is an oddity due to the fact that we are presenting the longest available and comparable series, and the end-year 1997 is exceptional in that the rural/urban PGI ratio showed a sudden fall to 1.13, i.e. below the 1957/8 level of 1.19. But the ratio was 1.20 in 1995-6 and 1.23 in both 1993/4 and 1994/5 (Jha, Table 4, in Cornia, forthcoming), i.e. on these data there was slight rural-urban PGI divergence over the whole period from 1957/8 in PGI, as in incidence. Note also that 1989-90—with the rural PGI suddenly plummeting for just one year, to only 92 per cent of the urban ratio—is unique; rural PGI is over 100 per cent of urban in all other years (Jha, Table 4, in Cornia, forthcoming).

numbers) with the tables in section 2, we see that, in almost every case, rural-urban inequality rose (fell) alongside relative rural poverty.

3.3.1 Asia

The picture is diverse, but overall there is no convergence between urban and rural poverty. We must pay special attention to China and India, which are home to over half the world's 'dollar poor'; both seem incompatible with any plausible OTI story.

China: Food poverty fell from 28.0 per cent in 1978 via 9.2 per cent in 1985 to 8.6 per cent in 1990; urban from 4.4 per cent in 1978 to 0.4 per cent in both 1985 and 1990; rural from 33 per cent via 11.9 per cent to 11.5 per cent.[29] Meanwhile the urban population share rose from 17.9 per cent to 26.4 per cent (World Bank, China PA 1992, ix, 23, 146-7). Thus both urban and rural poverty fell; urbanization reduced national poverty incidence.[30] Rural poverty fell in 1977-84 alongside rapid, egalitarian and essentially individual land reform, declining price repression of agriculture, and major technical progress in rice and wheat; yet even then urban poverty fell faster. More recently, the ratio between urban and rural mean income rose from 1.7 in 1983 to 2.2 in 1995; both the level and the rise are more, if differentials and changes in the cost of living and in subsidies are allowed for (World Bank 1997: 16). This must have raised rural/urban poverty ratios, and was reinforced by rising *intrarural* inequality after 1983, as township and village enterprises replaced agriculture as the engine of rural growth, and backward areas fell further behind (Howes 1993, Gang *et al.* 1996). After 1985, once urban poverty had fallen almost to zero (on the national poverty line; it was about 2 per cent on the Bank's dollar-a-day line), rural poverty almost stopped falling. (Local studies, cited in the PA and the STICERD study (Howes 1993, etc.), suggest that sectoral PGI and H showed similar trends.)

Also, China's urban/rural poverty ratios are linked to high and rising *regional* inequality. Since 1984 growth has been much faster where there was little

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[29] 11.4 per cent on the same national poverty line in 1994: World Development Indicators (1998: 64).

[30] This is an arithmetical statement, implied by lower urban poverty rates plus urbanization. It does not imply that the poor urbanised, that those who did thus reduced their risk of poverty, or that rural poverty was reduced because urbanization moderated the pressure on land. Empirically, all three statements are, in this case, probably correct.

poverty left to eliminate—the urban SE coastal belt and its fast-urbanizing 'rural' hinterland. Hence urban/rural poverty ratios have widened, and poverty has fallen only slowly (Gang *et al.* 1996), the more so because *intrarural* inequality is rising, due to regional divergence and to the greater risks to decollectivized farmers, e.g. from market volatility; specialization within agriculture; and rapid growth of non-farm income, which accrues disproportionately to better-off people (Howes 1993; Howes and Hussain 1994). Intrasectoral inequality cannot be separated from urban bias; this affects both the rural sector and, within it, areas and farmers of less concern for urban purposes.[31]

India has substantial rural-urban (and regional) differences in mean income and poverty, close to the norm for developing countries, but well below China. Between 1957-8 and 1997, the typical townperson's risk of falling below the (locally price-adjusted) national poverty line fell by 58 per cent, and the typical villager's by 48 per cent, of its previous level, implying overall divergence (Table III.1; on the PGI, see fn. 1 above). There are three periods. From the mid 1950s to the mid 1970s, real (PPP) GDP and mean consumption per person and overall poverty stagnated, as did both rural and urban poverty incidence and hence the ratio between them (though with huge fluctuations, greater in rural areas). From the mid 1970s to around 1990, incidences and PGIs converged as both urban and rural poverty fell: the rural/urban incidence ratio was around 1.2 in the mid 1970s and below 1.1 around 1990, while the PGI ratio fell from close to 1.3 to barely above unity. Third, adjustment saw urban poverty falling, rural poverty trendless, and hence poverty risks diverging: in 1992, with a spotty harvest accompanying economic sluggishness due to stabilization, the incidence ratio rose sharply to 1.3 and the PGI ratio to over 1.2. By 1997, despite even faster growth in mean consumption in the rural than in the urban sector, urban and rural poverty had again diverged—indeed, urban poverty over the reform period fell sharply, while rural poverty appears not to have budged (Table III.1, Appendix 1 sources, and Jha, Table 4, in Cornia, forthcoming).

Great caution is needed in interpreting these much-debated Indian data, but we doubt that one can write off, as an artefact of the data, either the rising rural-

[31] Some 100 million Chinese 'floating migrants' work in the towns but are registered as rural. They lack most urban entitlements and subsidies, and are seldom if ever surveyed as urban. So data shortages prevent firm conclusions about their poverty. But they are probably intermediate between registered urban and settled rural people in both incidence and speed of decline since the mid 1980s.

urban poverty gaps during adjustment—in contrast to Africa—or the apparently sharp fall in the elasticity of rural poverty to mean consumption. First, though the sample in some years is 'thinner' than in others, there are sufficient rural and urban observations even in the 'thin' years for *nationwide* estimates of mean rural and urban consumption, and almost certainly poverty and inequality indicators, to have minimal sampling error. Second, Deaton and Tarozzi (1999) argue that in 1989/90-1993-4 NSS overestimated inflation, and hence raised the poverty line in current rupees too much, especially in rural areas; they infer that poverty declined more than the NSS data suggest, and that no conclusion about the rural-urban poverty divergence (or otherwise) may be justified. However, the choice of inflation adjuster, in numerous similar past arguments about Indian poverty data, has hardly ever made a big difference to poverty trends, let alone ones as sharp as the apparent reversal of rural-urban poverty convergence (and indeed of rural poverty decline) since 1989-90. The longer data set to 1997 now available makes it even more likely that the rural-urban poverty gaps widened, and that rural poverty fell little, over the whole adjustment period. Note, however, (Srinivasan 2000) that (a) this may be due to the far slower pace of reform in agriculture (and in rural financial markets) than elsewhere, not to reform itself; (b) rural poverty appears to have done worst in the least-reforming States of Uttar Pradesh, Bihar, Orissa and Rajasthan, and to have fallen elsewhere, though less than in urban areas. Whether the blame lies with delayed reform, reform, or incomplete reform—and despite a healthy reduction in overall poverty—there is no decline in urban-rural poverty gaps in India over the long term and probably an increase in recent years.

Of other large Asian countries, *Indonesia* is widely reputed to have shown very fast falls in poverty, even more so in rural areas, especially during the rapid progress with high-yielding rice varieties in the 1980s. The reliable 1984 and 1990 household surveys, together with necessary price adjustments,[32] confirm this. Rural PGI fell by 59 per cent of its 1984 level, and urban PGI by 48 per cent (H fell by 42 per cent and 29 per cent respectively) by 1990.[33] In *Bangladesh*, however, in the same period, the urban PGI fell by 26 per cent (H by 24 per cent)

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[32] Official comparisons substantially overstate the extent to which urban prices exceed rural (thus overstating urban relative to rural H and PGI) and somewhat understate poverty overall (at the national line) (Ravallion and Huppi 1991).

[33] Firdausy (1994) for the whole 1980-90 period, shows rural and urban H falling at similar rates (respectively from 33.5% to 16.0% and from 36.7% to 17.3%), but uses the flawed official price series.

and rural PGI by only 3 per cent (2 per cent) (Table III.1). In *Pakistan* during 1984/85-1990/91 the rate of reduction of H was, at best, no faster in urban than in rural areas[34] (Lipton and de Haan 1997). Poverty indicators converged between urban and rural sectors in *Sri Lanka* (1985/6-91),[35] but diverged in *Malaysia* (1973-89), the *Philippines* (1961-88 and 1985-8), *Thailand*[36] (1988-92) and (in sharp economic contraction) *Jordan* (1986/7-92).

For Asia overall, these data—mostly for 1984-94—show, if anything, some rural-urban poverty divergence. This corresponds to mean income divergence, explored in section 2.

3.3.2 Africa

The region's uniquely high urban-rural gaps in welfare indicators, including poverty, around 1960-85—due largely to structures of outlays, prices and institutions associated with urban bias—probably declined in 1985-95.[37] Some of the inefficiencies became unaffordable as some of the underpinnings of urban bias were cut away by 'adjustments', or rather cuts, enforced not by international institutions but by fiscal and foreign-exchange crisis and economic decline. Cuts in public-sector jobs, and rises in food prices due to devaluation, impinged more on urban than on rural areas. Reduced public spending, increased health or school charges, etc., affected the rural areas less because they had enjoyed much smaller per-person flows of such resources in the first place.

Thus in *Nigeria* in 1988-92 urban incidence more than doubled (to 10.9 per cent) while rural incidence fell slightly (to 15.4 per cent). The number of *extreme* poor

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[34] Qureshi *et al.* (1996) say that after 1984/85 the proportion of the poor living in rural areas rose slightly.

[35] The data for Sri Lanka, however, exclude the eastern and some northern areas affected by civil war.

[36] Incidence fell from 1988 to 1992 in municipal areas from 6.4% to 2.4%, in (semiurban) 'sanitary districts' from 28.6% to 16.8%, and in villages from 25.5% to 15.5%. Poverty gap indices fell, respectively, from 5.5% to 3.4%, from 8.6% to 5.1%, from 7.5% to 4.0%. PA: 65.

[37] That is not because urban power weakened, or rural pressures became less weak and diffuse. Given unaltered power-balances, it is likely that the urban State—compelled to correct *price bias* against rural people (and especially deficit farmers who delivered nothing to the cities), and thus to cut the ratio of urban to rural poverty—will gradually offset such effects by increasing *public expenditure bias* towards the towns.

TABLE III.1
CHANGES IN POVERTY AND THEIR DECOMPOSITION INTO GROWTH AND DISTRIBUTION COMPONENTS

Country and period		Poverty incidence change [initial-final] (growth component, inequality component, residual)			Poverty gap index change [initial-final] (growth component, inequality component, residual)		The ratio of rural to urban poverty initial→final I=incidence, PGI=pov. gap
		Rural	Urban	National	Rural	Urban	
W ASIA	Jordan, 1986/7-92	+17.3 (12.5, 1.4, 3.4)	+10.4 (7.1, -2.1, 5.4)	+11.9 (8.3, -1.3, 5.0)			
SE ASIA	China, 1978-90	-21.5 [33.0-11.5]	-4.0 [4.4-0.4]	-19.4 [28.0-8.6]			7.5→28.7 I
	Indonesia, 1984-90	-19.1 [45.7-26.6]	-4.64 [15.9-11.2]		-7.53 [12.8-5.3]	-1.67 [3.5-1.8]	3.87→2.37 I
		(-15.28, -2.42, -1.44)	(-6.26, 2.53, -0.91)		(-5.52, -2.24, 0.23)	(-1.54, 0.20, -0.33)	3.66→2.94 PGI
	Malaysia, 1973-89	-36.0 [55.3-19.3]	-30.5 [44.8-14.3]	-30.5 [44.8-14.3]			1.23→1.35 I
	Philippines, 1961-88	-11 [64-53]	-28 [51-23]	-22 [59-37]	-4.7 [27.3-22.6]	-4.6 [21.6-17.0]	1.25→2.30 I
	1985-88	-6.6 [69.4-62.8]	-7.3 [56.8-49.5]				1.22→1.27 I. 1.26→1.33 PGI
S ASIA	Bangladesh 1984-90	-0.9[53.8-52.9]	-7.3 [40.9-33.6]		-0.4 [15.0-14.6]	-3.0 [11.4-8.4	1.32→1.57 I
		(-2.50, 1.60, 0.00)	(-10.8, 3.6, -0.1]		(-1.0, 0.6, 0.0)	(-3.9, 1.3, -0.4)	1.32→1.74 PGI
	India, 1957/8 - 1988/90	-20.9 [55.2-34.3]	-14.4 [47.8-33.4]		-11.2 [19.0-7.8]	-7.4 [16.0-8.5]	1.16→1.03 I
	1988/90 - 1997	-0.1 [34.3-34.2]	-5.5 [33.4-27.9]		+0.3 [7.8-8.1]	-1.3 [8.5-7.2]	1.19→0.92 PGI
							1.03→1.23 I 0.92-1.13 PGI
	Sri Lanka, 1985-6-1990-1	-7.3 [31.7-24.4] (Estate: - 1.7 [14.3-12.6])	+1.9 [16.4-18.3]		-2.4 [7.7-5.3] (Estate: -0.8 [1.4-0.6)]	+0.7 [3.5-4.1]	1.93→1.33 I 2.20→1.27 PGI

Country and period		Poverty incidence change [initial-final] (growth component, inequality component, residual)			Poverty gap index change [initial-final] (growth component, inequality component, residual)		The ratio of rural to urban poverty initial→final I=incidence, PGI=pov. gap
		Rural	Urban	National	Rural	Urban	
LATIN AMERICA	Colombia, 1977-92	-7.2 [38.4-31.2]	-4.1 [12.1-8.0]		-3.1 [16.6-13.5]	-2.2 [4.6-2.4]	3.17→3.90 I
	1978-92:	-5.3	-4.1		-2.8	-2.1	3.61→5.62 PGI
	extreme poverty line	(0.4, -6.5, 0.8)	(-1.2, -2.2, -0.7)		(0.4, -3.1, -0.05)	(-0.5, -1.7, 0.1)	
	Ecuador, 1990-4	-38.0 [85.0-47.0]	-22.7 [47.7-25.0]				1.78→1.88 I
	Guatemala,1980-	-7.2 [79.2-72.0]	+13.7 [40.7-54.4]	+2.2 [65.4-67.6]			1.95→1.33 I
	1986/7	-4.0 [83.7-79.7]	+13.3 [47.0-60.3]	+2.1 [71.9-73.2]			1.78→1.32 I
	Honduras, 1989-93	-7 [56.1-39.7]	+4 [51-55]	-2 [55-53]			1.10→0.72 I
AFRICA	Côte d'Ivoire, 1985-8	15.0[41.6-56.6]	15.2[13.8-29.0]	15.9[30.0-45.9]	5.0[13.8-18.8]	2.7[4.2-6.9]	3.01→1.95 I
							3.3→2.7 PGI
	Ghana, 1987-8/1991-2	-8.0 [41.9-33.9]	-0.9 [27.4-26.5]	-5.4 [36.9-31.5]			1.53→1.28 I
	Kenya, 1992-4	+0.4 [46.3-46.7]	-0.3 [29.3-28.9]				1.59→1.62 I
	Nigeria, 1985-92	-0.7 [16.1-15.4]	+6.0 [4.9-10.9]				3.29→1.41 I
	Zambia, 1991-6	-4.2[79.1-74.9]	+6.8 [27.2-34.0]	+4.3 [55.5-59.8]	-12.3 [50.1-37.8]	+1.9 [9.5-11.4]*	2.91→2.20 I
							5.27→3.32 PGI
TRANSITIONAL	Romania, 1989-93	+17.5 [5.9-23.4]	+15.8 [1.2-17.0]	+16.3 [3.7-20.20]			4.92→1.38 I.

Note: the first row of the table indicates how the data are presented. Gaps in the cells indicate data unavailability. Example: in the rural sector in Colombia between 1977 and 1992, poverty incidence fell by 7.2%, from 38.4% to 31.2%; a growth/inequality disaggregation is not available. a: National change in PGI was -0.81 (40.9-40.1).

Sources: Appendix 1.

in urban areas soared—from 1.5 million to 4.3 million—and also rose in rural areas, from 8.6 to 9.6 million (de Haan *et al.* 1997; PA, No.2.14).

The *Zambia* story is telling. 1991-6 was a period of negative growth. Yet rural poverty fell, partly because the brunt of adjustment had to lie in the urban sector which had benefited from most subsidization and 'artificial' public employment, and partly because of substantial rises in intrarural equality as input and milling subsidies (benefiting mainly surplus farmers) were phased out (McCulloch and Baulch 1999, based on per-adult-equivalent indicators; Zambia PA). The phasing in *Ghana* was different: the urban-rural ratio of mean income in 1973, at 1.5, was much lower than the African norm (cf. Kenya's 3-4), and imploded to unity or less in 1973-83 as urban income contracted in 'one of the most spectacular declines in economic fortune that any country has known'. Yet by 1987 rural headcount poverty was well above urban (respectively 42 and 27 per cent). In the recovery of 1987-92 the urban/rural *mean-income* ratio rose again (Canagarajah *et al.* 1997). Hence the big fall in the ratio of rural to urban poverty (Table III. 1) reflects the big rise in inequality within the cities, especially Accra, and perhaps a fall in *intrarural* inequality, in the recovery years. *Kenya's* phasing is intermediate, with 1992-4 neither as unfavourable as in Zambia nor as recovery-oriented as in Ghana, but there is still a mild (perhaps not statistically significant (Kakwani 1993)) fall in the ratio of rural to urban poverty headcounts.

Côte d'Ivoire 1985-8 saw economic adjustment, followed by 'abandonment of the effort .. a period of destabilization' (Grootaert 1996: xiii). While both urban and rural poverty increased, the rural-urban poverty gap narrowed (as did rural-urban inequality: Table II.2). This mirrors Ghana's experience: declining relative rural poverty signalled overall economic contraction that hit the towns harder. However, in both cases the capital-city élites probably avoided the effects of the closing overall rural-urban gaps: in Côte d'Ivoire, because mean income in Abidjan (in sharp contrast to other towns) fell no more than in rural areas; in Ghana, because in Accra —despite much faster falls in mean income than in rural areas—the big rise in inequality probably meant that the poor bore the brunt.

3.3.3 Latin America

A review[38] (Costa Rica PA: Annexes: 33, Table 2) estimates trends in poverty incidence in 1980-90. Different national lines are used, so that aggregation is problematic; but, for what it is worth, incidence above these lines rose, for the ten countries together, from 16.8 per cent to 23.6 per cent (i.e. the risk of poverty rose by 40 per cent) in urban areas, and only from 45.1 per cent to 52.5 per cent (by 16 per cent) in rural areas, so the odds ratio converged towards unity. However, we have no evidence of the quality or comparability of most of the surveys. We found only five countries with clearly comparable surveys in the World Bank screened database. Of these, all but Honduras show the ratio of urban to rural poverty increasing (Table III.1).[39]

3.3.4 Transitionals

Only Romania has data in the framework of Table III.1, but three points relate to urban-rural poverty trends.

- PAs from two Asian transitionals (Laos, Mongolia) show rural poverty slightly *below* urban; very equal rural distribution, without the huge regional inequalities characterizing China, outweighed the effects of extractive policies. (However in 1993 the rural headcount below the national poverty line in Vietnam was 57.2 per cent, as against 25.9 per cent in the urban areas: (WDI 1998: 66).)

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[38] Costa Rica PA, Annexes: 33, Table 2. The headcount trends 1980-90 are: Argentina, metro 3.0%-6.4%, rural 11.5%-23.4% (1989); Bolivia, urban 34.1%-54.0%, rural 81.3%-76.2%; Brazil, urban 23.9%-33.2%, rural 55.0%-62.1%; Chile, urban 15.9%-9.9%, rural 34.0%-10.4%; Colombia, urban 13.0%-8.0%, rural 68.4%-40.6%; Costa Rica, urban 9.9%-3.5%, rural 16.3%-3.2%; El Salvador, urban 23.6%-41.5%, rural 50.6%-51.4%; Guatemala, urban 35.7%-50.9%, rural 52.7%-76.5%; Honduras, urban 38.8%-54.5%, rural 70.6%-82.6%; Mexico, urban 9.4%-14.1%, rural 19.7%-26.9%.

[39] However, first, the data for one of the countries (Bolivia) show initial rural poverty incidence below urban (probably because of an inappropriately high urban-rural cost-of-living differential) and rising at almost exactly the same modest rate. Second, if poverty trend data for Chile were available, they would probably show convergence between the two good surveys of 1987 and 1992, since rural and urban mean income converged and low-end inequality in both sectors fell at roughly similar rates (Ferreira and Lichfield 1998).

- Of ten 'European' transitionals reviewed by Milanovic (1995), mean rural income (or expenditure) fell during the transition, relative to urban, in eight and stayed unchanged in two. In Poland, farmers—traditionally the group with the highest poverty incidence—saw it rise from about 11 per cent in 1987-8-9 to about 27 per cent in 1991-2-3-4, much faster than other groups (Milanovic 1998: 94). Yet, given the widely observed and substantial rise in urban inequality, urban poverty may have outpaced rural in the few transitionals (Romania, Albania, Armenia) that undertook radically egalitarian private distribution of formerly collective and/or state lands. In Romania in 1989-93 rural poverty incidence tripled (to over 23 per cent, but urban incidence shot up faster, from 1 per cent to 17 per cent. Even in some transitionals with largely unreformed collective or state farms (notably the Ukraine) tiny 'family plots' have provided more support for low-income groups in rural than in urban areas.

- However, given the small scale of agricultural reform or development in Russia and most other transitional economies and the divergence of urban from rural mean incomes, most rural and urban PGIs (and headcounts) have probably diverged, though more research is needed.

There is no evidence for a global decline in the 'odds ratio' of rural to urban poverty, either since adjustment or in the longer term. In several African countries the ratios have indeed declined; very high past ratios had been due to rural price repression and urban job protection that proved increasingly unaffordable. In South and East Asia there is, if anything, divergence of urban and rural poverty risk—in China a major contributor to rising overall inequality—and in India rural-urban poverty risk convergence in 1975-90 was apparently reversed during the adjustment period (though we make no claim of cause and effect). In the transitionals the very limited evidence also suggests rising rural/urban poverty ratios. For Latin America the evidence is mixed and inconclusive. Globally, changing 'odds ratios' appear as much, or more, due to within-sector redistribution between poor and non-poor, as to different rates of urban and rural mean income growth.

How does the relative rural poverty story relate to the message of Section 2? In Asia and the Transitionals, very closely: except in Indonesia, we see no convergence between rural and urban poverty *or* mean income. Elsewhere the stories differ slightly. Latin America shows some convergence in mean income, but no general reduction in relative rural poverty, perhaps because rising rural

poverty has pulled the other way. Relative rural poverty falls in Africa, but the overall distribution data in Section 2 are not good enough to allow this to be linked to a trend in any one component of inequality.

IV TRENDS IN RURAL-URBAN HEALTH INEQUALITY

Once urban mortality and morbidity rates have come down, the cost of further reductions becomes very large, compared to the cost of starting to bring down rural rates. Hence it is surprising to find persistent divergence in many key indicators in Asia (Lipton and Osmani 1997).

The standard UN data sources rest on official reports, often from countries with little or no machinery for registration of births and deaths, especially in rural areas. Even where the materials are based on successive census age-distributions, the method of estimating age-specific birth and death rates from these—and the assumptions about migration—can greatly affect the outcome. The most careful work on rural and urban mortality, and in some cases morbidity, is from the Demographic and Health Surveys (DHS); from intensive national samples such as India's Sample Registration Survey (SRS); and from specific case study work.

4.1 Child survival

Based on the DHS work, for 12 developing countries, the survival advantage for urban vs. rural under-fives rose from an average of 1.4 in the mid 1970s to 1.6 in the mid 1980s (Sastry 1997).[40] As for infant mortality, SRS data show that in *India*, from 1970-5 to 1981-5, the rural IMR fell by 19.5 per cent (to 113) and the urban IMR by 28.1 per cent (to 64) (Rajan 1993: 112), but by 1990 the rates were 86 and 51 respectively, so that in the 1980s rural IMR decline accelerated (Goyal 1994: 104). In *China*, 'official' urban and rural infant mortality rates in 1957-88 fell, respectively, from 50.8 to 13.9 and from 89.1 to 23.6, i.e. at similar rates (outside estimates are higher, but are not disaggregated into urban and rural) (Bhalla 1995: 237). In *Malawi* rural child mortality declined from 360 to 261 in 1972-84, while urban rate fell faster, from 239 to 121 (Palamuleni 1994: 72). In *Cameroon* in 1962-76 the remote rural areas and the capital city showed

[40] Sastry adds Brazil from the 1986 DHS: the ratio of urban to rural child mortality fell from 1.08 (1971-5), to 0.84 (1976-80) and 0.60 (1981-6).

the slowest IMR falls in 1962-76 (Defo 1996: 411). In the *Congo* in 1985-92, a main predictor of child mortality risk, low birthweight, increased from 12 per cent to 29 per cent in rural areas, but more slowly, from 12 per cent to 16 per cent, in urban areas (PA 1997). Thus, all in all, too few data are available to say much about the urban-rural balance in the 1990s, but until the late 1980s—while both urban and rural child mortality was in decline—the odds ratio between urban and rural children appears to have been, in most developing countries, large and either stable or widening.

4.2 Rural and urban life expectancy

Trends are available for few developing or transitional countries. In *Malawi* rural life expectancy at birth rose from 35.9 in 1972 to 42.7 in 1984; urban life expectancy rose faster, from 44.6 to 56.6 (Palamuleni 1994: 72). For *India*, Goyal (1994: 109) reports 'improvement in life expectancies substantially larger in rural areas at all prime life stages' in 1970/5-1992, but for 1972/7-1982/6 Naveenathan (1994: 55), also using SRS data, shows that life expectancy at birth rose more in urban than in rural areas both for men (respectively 6.0 per cent and 1.7 per cent) and for women (9.7 per cent and 2.0 per cent). In other words, relative rural life expectancy seemed to increase, but this was more than fully explained by different changes in rural and urban male/female ratios (together with different life expectancies by gender); for each gender separately, urban improvement was faster than rural.

4.3 The structure of deaths by age

This confirms a widening gap in life chances between urban and rural 0-4 year olds. For example, in urban Egypt, between 1976 and 1992, the proportion of all deaths occurring at these ages fell from 44 per cent to 16 per cent, while in rural areas the proportion fell from 44 per cent to 24 per cent. This large emerging urban-rural gap is explained only to a small extent by changing urban vis-à-vis rural age-structures (and not at all by changing gender-structures), and Egypt's experience is not atypical.[41] It partly reflects reclassification of larger, faster-

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[41] UN Demographic Yearbooks (1979: 240-66); (1979 Special Issue, 288-372); (1985: 210-45, 594-635); (1996: 218-61, 604-57). Death estimates in developing countries are either (a) dependent on assumptions made in intercensal interpolations from census age-structures, or (b) especially in rural areas, substantially underrecorded (except with comprehensive samples such as India's SRS)—decreasingly so over time, as a rising proportion of the critically ill gets medical care. However, there is no reason to expect any of this to account for the divergent rural-urban trends.

growing villages (with better health provision) as towns—but mainly slower improvement in health provision or access in remaining rural areas compared to the towns.

4.4 Health provision

There are few data comparing rural and urban trends in health provision. Bhalla (1995: 242) compares China and India in 1957-78. Per thousand inhabitants, doctor provision fell in rural China (from 0.76 to 0.73) while it rose in urban areas (from 1.3 to 2.99); provision of nurses, however, expanded much faster, especially in rural areas (from 0.05 per 1000 to 0.94), finishing above the urban provision rate (expansion from 0.19 to 0.74 per 1000). In India in the same period, the expanded provision of rural doctors (from 0.33 to 1.44 per 1000) slightly outpaced urban (0.49-2.07) and this was even clearer for nurses (0.39-2.28 per 1000 villagers, 0.47-1.86 per 1000 townspeople). As in China, the effect has been to prioritize nurse provision in rural areas and doctor provision in towns. Even if this reflects cost considerations, it has not enabled the villages to catch up with rising health standards in the cities; though China's overall record in reducing infant mortality is outstanding, the urban/rural ratio has not fallen.

V TRENDS IN RURAL-URBAN EDUCATIONAL INEQUALITY

With few exceptions Tables V.1-2 show clear rises in rural-urban inequality.[42] The 'odds ratio' of rural to urban illiteracy 'should' be close to unity, if both the costs of obtaining literacy and the benefits from it are distributed more or less independently of urban or rural residence. In fact, at the start of the observations in table V.2 (typically in the early 1970s), the ratio was around 1.4-2 in North Africa and Asia (except the Philippines), but at 2-3.5 in Latin America (and the Philippines).

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[42] All developing countries with trend rural and urban illiteracy data in the standard UNESCO source (including no sub-Saharan African countries) are shown. The few transitionals with data (Yugoslavia/FRY, former USSR, Byelorussia, Ukraine) report uniformly negligible rural and urban male and female illiteracy.

TABLE V.1

RURAL AND URBAN ILLITERACY TRENDS: N. AFRICA + L. AMERICA

Country		Percentage of over-15s illiterate						Notes on row
		Total		Male		Female		
		U	R	U	R	U	R	
Algeria	1971	58.8	81.1	42.0	66.5	74.2	94.0	
	1987	42.9	71.2	29.5	55.8	56.2	87.2	
Egypt	1976	39.7	70.6	28.5	55.5	51.8	86.9	% of over-10s
	1986	40.1	68.7	30.0	54.3	50.8	83.5	
Morocco	1971	61.3	88.5	45.6	78.1	75.8	98.7	
	1994	41.1	79.3	27.7	65.5	53.8	92.3	
Sudan	1983	41.2	76.2	29.7	65.1	54.4	86.1	
	1993	32.7	59.0	22.3	41.1	44.0	71.8	
Tunisia	1975	49.5	75.4	36.9	61.9	62.1	89.2	
	1989	31.9	60.0	21.9	44.9	42.4	75.1	
Bolivia	1976	16.0	55.3	6.6	37.7	24.3	67.8	
	1992	8.9	36.1	3.7	23.0	13.5	49.4	
Brazil	1976	14.4	40.6	12.0	39.4	16.6	41.9	% of over-10s
	1991	10.7	31.1	..	..	..	..	% of over-10s
Costa Rica	1950	8.1	27.9	6.1	26.7	9.7	29.3	
	1973	4.9	17.0	4.0	16.6	5.7	17.5	
El Salvador	1961	28.8	66.3	21.0	61.3	35.0	71.5	% of over-10s
	1980	15.5	42.2	10.3	39.0	19.6	45.5	
Guatemala	1973	28.2	68.6	20.0	59.9	35.5	77.6	
	1994	16.8	47.8	11.2	38.5	21.6	56.9	
Uruguay	1975	5.2	11.0	5.1	12.6	58.2	8.6	
	1996	2.9	6.6	3.2	8.1	2.6	4.4	

Source: UNESCO, *Statistical Yearbooks* 1965, 1970, 1980, 1990, 1994 and 1998.

One would expect development, information, increasing factor mobility, and diminishing returns to bring a fall towards unity, in the 10-20 years covered by Table V.1-2, in the urban/rural 'illiteracy odds ratio'. Yet it increased in all 24 cases (male, female and total, for 8 countries) in Asia; in 15 of the 16 cases in Latin America; and in 10 out of the 15 cases in Africa.[43] Of the 49 cases of rising odds ratios in Tables V.1-2, ten showed rises of over 30 per cent and a further 17 of 20-29 per cent. Rises in the ratio were usually larger for females, in some cases dramatically so. There is no evidence for an improvement or worsening in the trends after the early 1980s.

[43] The exceptions, showing (very slight) rural-urban convergence, are: all illiteracy rates in Egypt; male and total rates in Sudan; and male rates in Costa Rica.

TABLE V.2
RURAL AND URBAN ILLITERACY TRENDS: ASIA

Country		Percentage of over-15s illiterate						Notes on row
		Total		Male		Female		
		U	R	U	R	U	R	
China	1982	17.6	37.8	9.5	23.1	26.4	53.2	
	1990	12.0	26.2	6.1	15.7	18.4	37.1	
India	1971	40.1	73.6	27.9	60.4	55.1	87.5	
	1991	26.7	55.3	18.9	42.1	35.9	69.4	% of over-7s
Iran	1976	44.0	83.0	32.7	72.3	56.5	93.4	
	1991	23.6	49.3	16.9	37.9	30.9	61.4	
Nepal	1981	52.6	81.3	40.3	70.4	67.0	92.4	
	1995	35.8	64.2	22.7	49.9	49.5	77.6	% of over-6s
Pakistan	1961	63.3	84.2	52.6	74.7	78.9	94.6	
	1981	52.6	83.2	43.1	73.9	64.1	93.4	
Philippines	1970	7.2	21.3	6.0	19.8	8.2	22.8	% of over-10s
	1990	2.7	10.3	2.4	9.6	3.0	11.0	
Sri Lanka	1971	14.1	25.0	9.4	15.5	19.7	34.9	
	1981	6.6	15.2	4.4	10.0	8.9	20.5	
Thailand	1970	12.3	22.9	6.3	13.9	18.1	31.6	
	1990	3.3	7.5	1.9	5.0	4.5	9.9	

Sources: as Table V.1.

VI URBAN-RURAL INEQUALITIES: DEMOGRAPHY AND URBANIZATION

Since different regions and countries experienced different, though substantial, trends and timings of change in different types of rural-urban inequality, it seems unlikely that such change is mainly explained by 'infectious', roughly synchronized, global phenomena such as liberalization. More probably, we should look for other explanations: big trends, proceeding in most developing countries, but starting much sooner in some than in others, not 'infectious' across borders, and with distinct rural and urban outcomes. Among strong candidates (apart from skill-using technical change) are two demographic forces, affecting almost all developing countries since the 1950s but at different times and speeds.

6.1 Demographic transition

Demographic transition brings down first child mortality, and later age-specific fertility and adult mortality.[44] There are strong, often heavily lagged, effects on age-structure: child/adult, and hence worker/dependant, ratios first rise, the fall sharply, then level off.[45] These effects start, peak, and level off first in urban, then in rural, areas; and, in each, first for the better off. These complex demographic dynamics evidently entail complex dynamics in income distribution within and between sectors. However, a simplification is suggested by recent cross-national studies of the economic effects of fertility transition alone, using indicators of demographic structure such as the birth rate, the child/adult ratio and age structure by five year groups.

These studies suggest that faster fertility transition is associated with faster growth in GDP per capita (Kelley and Schmidt 1994, 1995; Bloom and Williamson 1997) and more equal income distribution (Eastwood and Lipton 1999). If these results for countries also apply to rural and urban regions within a country, then a particular profile of rural and urban inequality is suggested (Table VI.1). Urban fertility transition tends to widen the rural-urban gap while reducing urban inequality, thus raising relative rural poverty; subsequent rural fertility transition narrows the rural-urban gap and reduces rural inequality, thus reducing relative rural poverty. This time-sequence implies first a rise and later a fall in both rural-urban inequality and relative rural poverty.

6.2 Urbanization

Urbanization, the rise in the share of populations living in places above the rural-urban borderline, has four components: 'graduation' of villages into towns, due to natural increase; urban borderline expansion; slower urban than rural natural increase (which contributes negatively, reducing urbanization); and *net* rural-to-urban migration. With much variation among countries, these components

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[44] The *mortality transition* started with improved health-nutrition environments after 1945, and hence big falls in infant and child mortality. The 'saved' children initially and sharply raised the child/adult ratio. In this process towns preceded rural areas, and the better off preceded the poor, typically by 5-15 years in each case. The national child/adult ratio had stopped rising by 1955-60 in the countries listed in table VI.1.The *fertility transition*—and, prior to that, the aging of the 'saved' under-fives into adulthood—then lowered the child/adult ratio, with similar sequences and lags as in the earlier phase.

[45] Only in the levelling-off stage does the proportion of old people start rising sharply.

typically accounted, respectively, for some 30 per cent, 10 per cent, -10 per cent, and 70 per cent of urbanization in 1950-75 (*Lipton* 1977, 1982). Net migration is concentrated (especially in poorer groups) on people aged 15-25, female in Latin America, male elsewhere; the urban age- and gender-imbalances (and hence high worker/dependant ratios) are most marked in the poorer groups—as is their subsequent correction. Long-term net rural-to-urban migrants tend to have education and lifetime income above the rural mean, but somewhat below the urban mean.

Several of the above processes can be loosely described as the absorption into the urban lower-middle class of two categories of villagers: some already above the rural mean, and others with relatively good earning potential. These processes are migration, graduation, and urban borderline expansion. Their effect on rural-urban inequality is ambiguous (both mean incomes fall); they probably raise urban and lower rural inequality—migration because of who the migrants are, graduation and borderline expansion because they mainly affect larger or semi-urban, and therefore better-off, villages.

The highly selective structure of migration by age and gender modifies these effects. The adult/child, and hence worker/dependant, ratio rises in urban areas and falls in rural areas, most sharply among lower income groups. This tends to raise rural-urban and *intrarural* inequality, and lower *intraurban*. These age effects are strengthened by the male-selective structure of migration in Asia and Africa but weakened by a female-selective structure in Latin America. In later urbanization, for example, as migrant families in the towns are completed, these imbalances tend to be reversed. The probable effects identified in this table—which rest on substantial evidence—lead to the following conclusions, if we can assume that the earlier stages of the fertility transition[46] and of accelerated urbanization are roughly synchronous, and similarly for the later stages. The 'early' effect of fertility transition and urbanization is clearly to increase rural-urban inequality and to reduce *intrarural* inequality; a reasonable conjecture is that the signs in Table VI.1 will tend to be reversed subsequently as a new demographic equilibrium is approached. Throughout, the effect on *intraurban* inequality is ambiguous.

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[46]The mortality transition, with 'saved' infants and *rising* child/adult ratios (usually in towns before villages), is largely complete before the events in the chart (and in Table VI.2) begin; and ageing (a rising share of urban, then of rural, persons, non-poor before poor, over 60) becomes important only afterwards.

TABLE VI.1
FERTILITY TRANSITION AND URBANIZATION:
PROBABLE EFFECTS ON INEQUALITY

Type of process	Rural-urban inequality	Urban inequality	Rural inequality	Relative rural poverty
Urban fertility transition	+	-	0	+
Rural fertility transition	-	0	-	-
Urbanization	?(+)	+(-)	-(-)	+

Note: bracketed symbols in the last row indicate the additional effect due to the age and gender structure of migration.

Source: authors' construction.

Table VI.2 presents evidence for the few—in some cases populous—developing countries with census data on long-term changes in urban and rural age/gender structures. In all the countries with available long-term data, we find the urban sector raising its proportion of persons aged 15-59, and lowering its proportion of under-15s, faster than the rural sector. The Chinese data would almost certainly show the same result, but for the fact that in the later year a large number of 'unofficial' migrants—usually estimated at over 100 million, overwhelmingly young working adults—were registered as rural, although living and working in towns. Table VI.2 therefore broadly confirms that towns improved their proportion of workers and savers, and reduced that of young dependants, faster than villages (tending, we hypothesize, to widen urban-rural gaps). In the later stages of the observations in Table VI.2 and subsequently, the later demographic and urbanization processes may well have begun to reverse the 'unequalizing' tendencies of the earlier stages. We cannot estimate the *strength* of these demographic components of trends in urban-rural distribution. But their *presence* affects one's interpretation of the impact of other trends. For example, if a group of countries reduces urban-rural and *intrarural* inequality despite unequalizing influences in early fertility transition and urbanization—or increases it, despite equalizing late demographic influences—that suggests greater distributive impact for non-demographic factors such as adjustment.

TABLE VI.2

TRENDS IN RURAL AND URBAN POPULATION STRUCTURES

Country	Year	Urban pop.(m)	%of urban population aged:				Rural population (m)	% of rural population aged:			
			0-14	15-59	all (M,F)	60+		0-14	15-59	all (M,F)	60+
Brazil	1960	32.47	38.9	55.6	(26.3, 29.3)	5.6	37.65	46.0	49.7	(25.5, 24.2)	4.3
	1991	110.99	32.9	59.7	(28.4, 31.3)	7.4	35.83	40.4	52.7	(27.7, 25.0)	7.0
China	1982	206.31	26.8	66.1	(35.7, 30.4)	7.2	797.60	35.4	56.9	(29.3, 27.6)	7.8
	1990	296.14	22.4	69.5	(36.5, 33.0)	8.2	834.37	29.6	61.7	(31.7, 30.0)	8.8
Egypt	1960	9.86	43.6	51.3	(25.8, 25.5)	5.1	16.12	42.2	51.1	(24.8, 26.3)	6.7
	1985	20.41	37.1	57.4	(29.6, 27.8)	5.6	25.50	42.2	51.0	(25.3, 25.7)	6.8
India	1961	78.93	39.2	56.0	(31.5, 24.5)	4.8	359.85	41.5	52.7	(26.8, 25.9)	5.8
	1993	232.20	32.7	61.7	(33.3, 28.4)	5.6	651.71	36.2	56.7	(29.2, 27.5)	7.1
Indonesia	1971	20.47	42.1	54.2	(26.8, 27.4)	3.7	97.9	44.4	51.0	(24.3, 26.7)	4.7
	1995	69.94	31.0	63.3	(31.1, 32.2)	5.8	124.82	35.5	57.1	(28.3, 28.8)	7.4

Source: UN, Demographic Yearbooks, 1979: 240-266; 1979 (Special Issue): 288-372; 1985: 210-45; 1996: 218-61.

APPENDIX 1

Table II.1 sources

China: Zhang (1997); Indonesia: I/H, authors' calculations based on Akita (1999);
Thailand 15689-TH 96, relative means are urban/rural ignoring SDs; Philippines, I/H, authors' calculations based on Estudillo (1997); Chile, E/P, Ferreira/Litchfield; Brazil, GI/P Ferreira/Litchfield, authors' calculations based on underlying aggregate data from Litchfield (pers.comm.); Ghana, authors' calculations based on Canagarajah *et al.* (1998), E/P; unindexed;

Table II.2

WB Poverty Assessments are just referred to by their codes and 2-digit dates. DS = Deininger-Squire(1986) dataset, latest Web-accessible version. I = income, GI = gross income, E = expenditure, H = household, P = person

FSU/EE: Romania, 16462-RO 97.

LATIN AMERICA: Colombia, 12673-CO 94; Costa Rica, DS, GI/H; Honduras, 13317-HO 94, I/P; Mexico*, Panuco-Laguette and Szekely (1996), I/P for L; I/H for LU and LR; contribution of between component is said to rise from 10.4 per cent to 15.7 per cent over 1984-92; Peru, DS, E/P, first two urban numbers are Lima only; Uruguay, DS, I/H, GINI(R) is 'interior' for 84 and 87.

S.ASIA AND CHINA: India, Jha (1999), C/P adj.; Bangladesh, Wodon (1999), C/Padj., calculations used lower poverty lines in his Table 1; China, Zhang (1997), disposable I/P, DS gives GI/P agg. Ginis which confirm rising trend; Pakistan, Oshima (1998), I/H; Sri Lanka, 1970, 1981, Glewwe (1986), C/P, within component in 1970 is 93.4 per cent of Theil-L, 85/86, 90/91 13431-CE 1995, bet/with/res = .072/.164/.084 (1985/86) = .051/.155/.091 (1990/91).

EAST ASIA: Indonesia, E/P, Jayarajah *et al.* (1996), relatives are relative to sectoral poverty lines; Korea, Oshima (1998), I/H, 3-yr avs centred on yr given; Thailand, Theils: Ikemoto/Limskul 1987, GI/H, Ginis: Oshima 1988, GI/H, NU excludes 'sanitary districts'; Malaysia, MU/MR, I/H; Ishak Shari

(1992), Ginis: I/H; Oshima (1998); Philippines, Estudillo(1997) for NU, MU/MR, Terasaki (1985) for extra MU/MR(data consistent with Estudillo), Oshima(1998) for Ginis.

MIDDLE EAST/NORTH AFRICA: Jordan, 126750-JA 94, E/P; Morocco, DS, totals are E/P, 1994 and 1991, sectorals are E/H, 1985 and 1990.

SUB SAHARAN AFRICA: Lesotho, 13171-LSO, 1995, Madagascar, Pryor (1990), urban numbers not really comparable: 'largest 6 towns' 1962, 'secondary urban centres' 1980; Malawi, Pryor (1990), rural=smallholders, estate farms and small towns excluded, Tanzania, 14982-TA, 1996, Uganda, 12029-UG

Table III.1 sources

Jordan, 1986/7-92:	PA: 12675-80, pp.11,32-4
China, 1978-90:	PA: ix, 23, 146-7
Indonesia, 1984-90:	Jayarajah *et al.* 60-5, 151-3
Malaysia, 1973-89:	Lipton & de Haan 1997; Ishak Shari 1992
Philippines, 1961-88:	PA, data for families: 3
Philippines, 1985-88:	Fajardo-Duka 170
Bangladesh, 1984-90:	Jayarajah, pp. 60-5, 151-3
India, 1957-8-1997:	Jha 1999
Sri Lanka, 1985-5-1990-1:	PA: pp. 7-9
Colombia, 19797-92:	PA vol 2: 70
Colombia, 1978-92:	PA: pp. 15
Ecuador, 1990-4:	PA: pp. 7
Guatemala, 1980-1986/7:	PA, annex 2; households row 1, individuals row 2
Honduras, 1989-93:	PA: pp. 64
Ghana, 1987-8/1991-2:	Canagarajah pp. 44
Kenya, 1992-4:	Katumanya
Nigeria, 1985-92:	PA, #2.14
Zambia, 1991-6:	McCulloch & Baulch 1999
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